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# CONSUMERS' DIGEST

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PECIAL FEATURE
FOR
OME GARDENERS:
NSECTICIDES AND

# CONSUMERS' DIGEST

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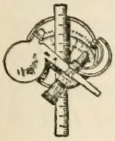

# CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

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## CHOOSING A RESTAURANT AND ORDERING A MEAL

*By*

F. J. Schlink

Good meals contribute much to the enjoyment and value of a vacation. It is interesting to note that in the field of consumers' goods, products whose performance can be measured by mechanical standards, such as automobiles, tires, and electrical refrigerators, have shown considerable improvement and give the consumer more for his money as the years go on. On the other hand, food, for which no such standards can be set, has progressively deteriorated in this country.

A good restaurant is a real discovery—something to tell one's friends about.

For the benefit of those who are sensitive to quality in food, we offer a few pointers which will aid in distinguishing the better restaurant from the poorer one without having to settle that question solely by experience, with possible bad effects upon one's digestion. It will be understood that none of the following rules are infallible guides to the selection of a good restaurant, and that occasionally one or more of

them may be violated in a restaurant which is in general superior.

Observe critically the restaurant where you contemplate dining. If there is a strong odor of deep-fat frying about it, shun it. Good restaurants do not fry much, and when they do, they usually use butter. The best cooking processes are roasting, broiling, and stewing. Poor restaurants, on the other hand, fry as much of their food as possible because it is easier, quicker, involves less waste, and requires less skilled help.

Look for the menu in the window. A restaurant which serves a good meal at a reasonable price usually is proud of its bill of fare. If you are fussy about what you eat, the menu will give you an opportunity to discover whether or not you will enjoy the choices on the table d'hôte.

A good menu should contain at least one roast for the main meal, preferably roast lamb or roast beef. The good restaurant invariably includes a roast. Poor restaurants avoid roasts because of the extra labor and waste which they involve. It is sometimes wise to avoid roast pork in an unfamiliar restaurant, since recent studies have shown an astonishingly large proportion of the population to be affected by trichinosis, a troublesome and sometimes dangerous disease caused by the eating of underdone pork. Roast pork or pork chops, when eaten, should always be very well done.

It sometimes happens that an elaborate menu with fancy names is not at all indicative of good food. An exception would, of course, be made in the case of restaurants serving genuine foreign cookery, with whose nomenclature you may be unfamiliar. Another modern device in menu writing is to lure the diner with adjectives, and a knowing menu reader will discount all of these. For example, mashed potatoes are "whipped," spinach is "new," lima beans are "baby," and pie is even, in one case, "sunkist chiffon." One restaurant keeper, who said "a good salad might almost be called a smart little gold-digger," makes his frozen tomato salad of "a highly seasoned commercial tomato soup, frozen in the can, then

opened and sliced, and dressed with either French dressing or mayonnaise." Surely any process which turns canned soup into salad would be a money-maker for a restaurant keeper.

Restaurants and hotels which feature the sale of beer and liquor in neon signs or prominently in any other fashion usually expect to make their money from the sale of liquor rather than good food. A good floor show is, likewise, no evidence of a place to get a good meal.

Restaurants which really understand the components of a good meal often serve sea-food cocktails, Bismarck herring or similar fish, or egg salad instead of a canned fruit cup or canned fruit juice (although some restaurants will include these latter as a concession to misguided tastes).

Don't begin your meal with a sweet, such as fruit cup, fruit juice, or a sweet cocktail. Start out, if it's a fairly elaborate meal, with a sea-food cocktail, hors d'oeuvres, or a good homemade soup.

The artistic decorations, the furnishings, and the uniforms of the waiters and waitresses are not important. Too much attention is being given to these matters by some restaurant keepers and restaurant trade journals. Tricky interiors, picturesque foreign costumes, romantically dim lights, and artificial fountains are all too often a substitute for good food. The humble wayside "diner" is often found to have excellent steaks, good coffee, homemade soup, fresh eggs, and homemade muffins, yet the appointments may be simple and even crude. The table cloth, silver, and dishes should, of course, be clean, the floor well swept and washed, and the waiters and waitresses clean and alert.

In a poor restaurant, the waiter or waitress will not listen to your order with care, and will serve you whatever happens to be customary or already prepared. Try, for example, to order a chicken sandwich on toast *without* lettuce or mayonnaise, but with butter, at the average soda fountain. In many soda fountains, it appears to be a rule to pay the very

slightest attention to the customer's order. A good restaurant pays the utmost heed to its patrons' likes and dislikes, even in the smallest details.

The best restaurants will be those which invariably serve *homemade* soup. Avoid any restaurant which serves canned soup and especially one which boasts, as some have lately come to do, about the soup's being canned.

The ideal restaurant is one which cooks *all* food to order.

Don't be afraid of getting too much meat. With certain qualifications, this food is the safest one to eat in a restaurant, and it is the best for you from a nutritional standpoint. A poor restaurant will skimp on the meat course.

It will be safest, as a rule, to ask that the meat dish be served without gravy. All too many inferior restaurants nowadays make a hot meat sandwich by putting slices of cold meat or even canned meat between two slices of bread and pouring a synthetic gravy over it.

Avoid meats of uncertain lineage and uncertain composition, such as meat loaf and various wursts, which may contain uncooked or insufficiently cooked pork or worse. Hamburger, too, is a problem, since it often contains sodium sulfite to make it keep as long as possible and still look fresh.

A good restaurant will serve only a minimum of canned foods, and then only to achieve variety in an off season. It will never serve canned fruits and vegetables when far more attractive and nutritious fresh fruits and vegetables are available. It is much cheaper, of course, for a restaurant to open a can and pour the contents into a kettle to heat than it is to shell and cook to order fresh peas, for example.

Be sure to avoid for a second meal any restaurant which indulges in an overdose of sugar in its cookery. There is a present tendency in much restaurant cookery to oversugar everything and to put sugar in dishes, such as peas and carrots, into which it would be introduced in no sane cuisine.

The type of butter served will often give you a clue at the very beginning of the meal as to what to expect later. Ex-

ceptionally fine restaurants serve sweet butter which requires more care than the ordinary butter and *must* be served fresh to be palatable.

Homemade rolls or bread, or bread made on the premises, will add considerably to the enjoyment of a meal if you are fond of bread and rolls. Bread and cakes baked on the premises can be served fresh without the necessity of adding, to delay staling, unwholesome chemical substances, as is regularly done with commercially baked goods.

Poor restaurants commonly serve special grades of coffee that "stand up" in the pot or urn, but good coffees do not hold their flavor well for more than a few minutes after making. A cup of good coffee should have aroma as well as taste.

Make it a point to eat occasionally in a restaurant known to be especially good. The standards of what constitutes an excellent meal are composed of many intangibles as well as those things which can be set down on paper. A taste for good things can be lost or blunted. It is important to remind yourself from time to time what really first-class food tastes like. No matter what it costs, it is well to eat a meal occasionally in a restaurant which is known to serve good food, such, for example, as The Sun Inn at Bethlehem, Pennsylvania, The Cochran House at Newton, New Jersey, The William Penn Inn at Gwynedd, Pennsylvania (not far from Norristown), Longchamps and Buchler's in New York City.

*Consumers' Digest* will welcome suggestions from its readers on the subject of good restaurants. If you know of one which serves food in the general manner of the specifications set forth here, send us its name and exact location, together with an account of any special items of attractiveness which it may possess. In future issues of *Consumers' Digest,* we will be pleased to report the names and locations of such institutions of good cookery.

A really good restaurant deserves recommendation to your friends and others.

# *ICE CREAM*

## *A Great American Pastime*

FACTORY-MADE ice cream is normally grossly adulterated and cheapened; it contains, or may contain, dried skim milk, butter (especially low grades, purchased primarily not because it is a suitable ingredient of ice cream, but because a certain butter fat content is required by law, and because it gives "richness"), egg powder, glucose, and gelatin (the latter two regarded by clinical experts with especial suspicion on account of their frequent contamination with arsenic and lead), agar or gum, and a whole gamut of artificial (chemical) colors (another class of food adulterants in which metallic adulteration is especially common) and flavors, instead of fresh milk and cream, sugar, eggs, and fruit or vanilla. The amount of air incorporated is often excessive (the gelatin and gum added to increase the "bulking" or air-holding power of the beaten-up mixture provide for that) and, ice cream being bought by volume, the makers, naturally, are active in objecting to a shift to a weight basis.

Public health regulations have for the most part lagged far behind in regard to ice cream, which *should be*—but never is—as carefully controlled as milk. Some ice cream tests made for Consumers' Research showed concentrations of colon bacteria from two to ten times higher than the New Jersey Department of Health considers safe for the water of bathing beaches. In addition, nine samples of twenty tested had a heavier bacterial contamination than the government accepts in its ice cream purchases; one sample was one hundred and fifty times worse, and seven were from two to fifteen times as heavily contaminated. Additional evidence of lack of adequate control is given by results of a recent test by a state government on one hundred and sixty-eight samples of ice cream. Of this number, eighty-four samples, or fifty per cent, contained more than 100,000 bacteria per cc, the lowest count being 2,000 per cc and the highest over

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12,000,000 per cc. In July and August, when bacterial counts were highest, seventeen out of sixty samples tested were above 1,000,000 per cc. Another test found all seven of the brands examined to have bacterial counts greatly in excess of the government specification allowance—in one case, one hundred times the government figure.

"Cherry" ice cream is made with artificial flavor and no fruit, or with the grossly insanitary, adulterated, and synthetically flavored maraschino cherries which are not at all safe for food. Ice cream is often a month old before it is sold, and may stand around up to nine months; the most popular flavor (vanilla) moves faster.

Ice cream allowed to melt and afterwards refrozen is particularly undesirable. The off-flavored chocolate ice cream is made by mixing the melted returns of all flavors, adding chocolate, and refreezing. A greenish tint results from the use of "Dutch process" or alkalized cocoa in which the alkali has reacted unpleasantly on the iron of the can. One will do well not to make chocolate ice cream a favorite dish unless the manufacturer will *guarantee* its freedom from lead, based upon regular tests of the chocolate or cocoa used and of the finished product.

There is no relation between the cost of ice cream and its bacterial count or the sanitary conditions (as indicated by the number of coli [sewage organisms] present) under which it is made. The cheaper ice creams, near-ice creams, and various ice cream-like products sold in paper cups are likely to have been made in huge batches and stored for long periods at a low temperature. Their bacterial count, even if large at the beginning, may be lower after a period of storage than when fresh. The poor quality or watery ice creams purge themselves of contaminating bacteria to a greater extent than the more expensive "high quality" ones, which contain more milk and cream. The present tendency to large-scale production of ice cream, which should assure the consumer a uniformly safe and sanitary product, does not in fact have this effect. Various factors, including the invariably

disadvantageous results of large-scale distribution systems, give a net result unfavorable to high quality and high sanitary safety.

Avoid "ice cream powders" or other ready-made mixtures of unknown composition for use in making ice cream at home. The home food-preparer has the right to know the character, purity, and composition of every ingredient or mixture she uses, which should come as directly as possible from their sources with the fewest possible manufacturing processes and handlers between.

***From One Who Remembers Restaurants Fifty Years Ago***

"The 'Here-is-something-just-as-good' clerk had not as yet been spawned by the food octopus and when you went into a store and asked for 'Dachrodt's home smoked bacon' you did not come away with Gyp and Foney's pyroic acid dipped sow belly. Those were the GOOD FOOD days and the 'pure food' atrocities had not as yet been perpetrated on a trusting public. . . .

"Public cooking has long since ceased to be an art. It is now a mechanical process in which a can opener takes the place of old quality recipes. Moderns glorified the can and all the world worships at the altar of Phonicuss Adulteratus, God of alimentary haste. 'Too-much-trouble' is the slogan of the kitchen and peeling apples, shelling peas and unstringing string beans has become a lost art. E. Z. has replaced O. K. in cookery and the manufacture and sale of 'indigestion' pills, pellets and potions has increased proportionately with the elimination of qualified cooks—God 'elp we uns!"

—Roscoe Lawrence
in *Easton Plain Dealer.*

# BATHING SUITS

In view of the very high current wool prices, the cost and value of a bathing suit normally bear a fairly close relationship to the weight of the garment and the type and quality of the wool yarn used. While style may be an important factor to some consumers, it is well to bear in mind the fact that the amount and quality of the wool used are the largest and primary elements of value in the making of a wool bathing suit.

Particular attention is called to the wide differences in various grades of wool. The purchaser is advised to note the "handle" or feel of the wool in various suits of a given type or design at bargain prices, medium prices, and at higher or luxury prices so as to accustom himself to different degrees of fineness both inside and out. There are many coarse wools which will undoubtedly prove irritating to the skin, particularly in women's suits. Making this comparative "handle" test will help the consumer to avoid the coarser and less satisfactory grades.

Wool is best suited as a fiber for bathing suits because of the physical characteristics which the fiber naturally possesses. In view, however, of the greatly increased interest in "dressmaker" and other suits using rayon, linen, *Lastex,* and cotton, tests of a few of these new types at various price levels have been made to determine the advantages and disadvantages of each. In spite of fashion trends, however, it still seems that most people will find it desirable to wear a bathing suit which consists of a wool lining or has wool as the fiber next

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to the skin, whatever fibers may be used for the outer part of the suit.

In order to offset the greatly increased cost of raw wool this season, a number of manufacturers are offering a light-weight wool jersey lining to accompany printed cottons, linens, and rayons. *Lastex* suits selling for less than $6 at retail are not an economical purchase. *Lastex* suits in the higher price brackets—$10 and above—while not tested in this study, will, it is believed, be found to be somewhat more satisfactory. The experience of various wearers so far has indicated that the *Lastex* suits look well and give a satisfactory degree of what the department store advertisements are pleased to call "figure control."

It is recognized generally that dark shades are more color-fast to sunlight than are light colors, such as yellow, sea green, pink, and light blue. When buying a suit, it is well to bear this fact in mind.

There are several points to be made in connection with the care and use of a bathing suit, most important of which include:

When rinsing, do not use hot water or strong soaps, rub the garment hard, or put it through a wringer. It is best, if possible, not to use soap. After gently squeezing—not wringing—the water out, the suit should be thrown over a line to dry in the shade. Do not use clothespins, and do not hang the suit by one corner or by a shoulder strap.

Many suits are ruined by snagging, tearing, friction, felting, and shrinking. Avoid these pitfalls. Body excretions must not be allowed to remain in a suit as they cause loss of color and damage to the fibers. Suits should be dried out thoroughly to avoid mildew. Protect a wool suit with the usual moth preventives, as moths are fond of both dyed and undyed wool. A worsted swim suit will stretch if worn continuously while dry, due to body heat. Thus, rinsing in fresh water is always necessary after every wearing, whether the wearer goes swimming or not.

A suit should fit snugly when dry, for the fabric will

quickly stretch when immersed in water. Slide fasteners are difficult to work unless they are entirely free of sand.

Because of the very strong style tendency for men to wear nothing but trunks, only one one-piece men's suit was included in the test. Shirts are usually the same material as the trunks.

Of eight men's and twelve women's bathing suits tested, we recommend those which follow. These recommendations are based on consideration of such factors as fiber content, quality of the wool, shrinkage, colorfastness to sunlight and in fresh and salt water.

All tests were in conformance with procedures prescribed by: United States Bureau of Standards, Commercial Standard TS-2202, 2229, 2143 and American Society for Testing Materials, Designation D39-36, D276-35T, D258-35T, D231-33.

### Men's Suits

#### Recommended

*B.V.D.,* Style 40 (The B.V.D. Co., Inc., 350 Fifth Ave., N.Y.C.) $2.95. One-piece royal blue bathing suit with skirt and cut-out back. Average grade of worsted yarn (as men's suits go). Well-knit suit. Garment fully cut to size. Good colorfastness to fresh and salt water. A slight tendency to fade noted after considerable exposure of the suit to sunlight.

*Spalding* Sailcloth Trunks (A. G. Spalding & Bros., 105 Nassau St., N.Y.C.) $3.50. Tailored gray cotton sailcloth. Medium weight cotton fabric (6.9 ounces) of fine combed cotton. Trunks had change pocket on right leg. Built-in supporter not provided. Buttoned front closing. Well tailored and finished throughout. Measured size corresponded with marked size. Excellent colorfastness to sunlight and to fresh and salt water.

#### Qualified Recommendation

*Wikies* (Gantner & Mattern Co., Inc., San Francisco) $3.95. Royal blue men's trunks. Heavyweight, patterned knit,

worsted fabric made of two-ply yarns. Wool grade somewhat coarse. Waistband of trunks closely knit to provide elasticity. Buttoned change pocket on right leg. Built-in elastic supporter from waist to crotch. Imitation fly front closing. Seams satisfactorily stitched. Little stretch in waist beyond marked size. Good colorfastness to fresh and salt water. Slight tendency to fade in sunlight.

*Jantzen Kava-Sheen Lastex Trunks,* Style 249 (Jantzen Knitting Mills, Portland, Oregon) $5.95. Fancy knit, brown trunks made of cuprammonium rayon and *Lastex.* Heavyweight fabric. Adjustable *Lastex* belt made of same yarns was somewhat heavy and awkward to fasten. Buttoned change pocket on right leg. Well tailored with loose fitting built-in supporter of same material. Imitation fly front closing. Suit not considered especially durable or warm. Elasticity excessive (stretched nearly 50 per cent beyond marked waist size). Natural yarn luster gradually lost after use in salt water, but colorfastness good. Satisfactory colorfastness to sunlight.

*Mansco* Gabardine Trunks (The Manhattan Shirt Co., 444 Madison Ave., N.Y.C.) $2.50, belt 50c extra. Acetate gabardine navy blue tailored trunks. Fabric woven of heavy yarns. Buttoned change pocket on right leg. Built-in supporter not provided. Buttoned waist and fly front closing. Side seams piped with red stripe. Trunks well stitched. Garment cut to marked size. Satisfactory colorfastness to sunlight and to fresh and salt water, although the navy blue tended to attain a purplish cast from usage in salt water.

*Wilson's Shorline Fashions* (Wilson Bros., Chicago) $3.50, belt 50c extra. Tailored brown wool flannel trunks. Lightweight fabric woven with good-quality woolen and worsted yarns. Change pocket lacked button to close it. Built-in supporter not provided. Trunks well constructed, with buttoned front closing. Tightly woven flannel; may be expected to shrink a little and, as marked size corre-

sponded with measured size, it would be well to buy a somewhat larger garment to compensate for shrinkage. Legs cut fully and of ample length. Flannel finish somewhat roughed up and lost as a result of usage in water. Brown color appeared fast to sunlight.

*Sea Ho,* Cat. No. 18 E 1811 (Distrib. Sears, Roebuck & Co.) $3.29 plus postage. Two-piece, rib knit, wool suit. Shirt lighter in weight than heavy trunks. Both parts made of somewhat coarse wools. Six-inch zipper at waist provided for attachment of shirt to trunks. Built-in elastic supporter. Imitation fly front closing. Garment fairly well constructed. Trunks cut fully to fit marked size. Trunks satisfactorily fast to fresh and salt water action, but shirt lost some color. Navy blue trunks were colorfast to sunlight, while lighter blue top had a slight tendency to fade.

### Women's Suits

#### Recommended

*Gantner,* Style 6202 (Gantner & Mattern Co., Inc., San Francisco) $6.95. Pronounced waffle weave, skirted maroon suit with lining. Average quality two-ply worsted yarns. Chest of bathing suit fitted with floating brassiere for added support. Low-cut back supported by adjustable braided straps. Heavyweight, firmly knit under and outer fabric. Suit well constructed, but heavy. Excellent colorfastness to sunlight and to fresh and salt water.

*Nautical Togs* (Greenhill & Daniel, Inc., 1410 Broadway, N.Y.C.) $3.98. Two-piece, printed cotton piqué suit with wool jersey lining. Well-made cotton fabric of average weight. White fine wool jersey lining stitched to printed cotton fabric. Fastening accomplished by three buttons at waist. Suit well constructed. Garment fully cut for marked size. Both outer and under fabrics considered to have excellent colorfastness.

*Ocean Printed Linen* (Ocean Bathing Suit Co., 1410 Broadway, N.Y.C.) $5.98. Black and white printed linen with a

wool jersey lining. Fine wool lining, lightweight (4.8 ounces) and well constructed. Fitted top "dressmaker" suit with adjustable straps and three-button closing at the rear of waist. Backless suit without cross straps. Suit fully cut but in excess of marked size. Both lining and garment had excellent colorfastness to water and sun.

*Annette Kellerman* (Asbury Mills, 1350 Broadway, N.Y.C.) $5.98. Blue and white plaid design, skirted wool suit. Fine quality wool used in well-constructed, knit fabric. Fitted bust sections lined with wool jersey. Low-cut back with adjustable wool shoulder straps. Suit fully cut and satisfactorily finished. Good colorfastness to sunlight and to fresh and salt water.

*Travelo* (Travelo Corp., 1410 Broadway, N.Y.C.) $6.98. Two-piece wool suit with raised pattern. Fine wool used made lining unnecessary. Trunks of same material with wide elastic waistband. Brassiere halter top tied in back and about waist. Small waist for marked size, but well made. Various tyings required for halter top may be objectionable to some wearers. Coral color satisfactorily fast to sunlight and to fresh and salt water.

### Qualified Recommendation

*Sea Ho,* Cat. No. 18 E 1607 (Distrib. Sears, Roebuck & Co.) $2.29 plus postage. Green skirted matelassé wool suit. Wool fabric of fine quality worsted yarn and construction. Finely knit wool trunks attached at waist. Fabric, gathered in front to shape bust, was interlined with cotton. Suit labeled pure wool, but the cotton-lined bust was stated in catalogue description. Suit cut sufficiently full for comfort. Shrinkage in salt water tended to increase raised matelassé pattern. Colorfastness only fair since sea green color changed to a yellowish cast of green. Color also quite subject to fading in sunlight.

*Sacony* (S. Augstein & Co., 1410 Broadway, N.Y.C.) $5.98. Blue maillot wool suit in plain weave with red dots. All

wool throughout. No interlining. Fine wool used made lining unnecessary. Medium weight fabric, closely knit. Darts used for shaping busts. Adjustable shoulder straps tied in back at waist. Well-made suit, appeared fully cut to accommodate marked size. Left leg measurement was one inch smaller than for right leg which is five per cent variation and an appreciable amount for a suit of this price. Excellent colorfastness to sunlight and to fresh and salt water.

*Communism and Consumers*

Measured by the important barometer of human standards of living, the high point reached by Soviet socialism is still considerably below the low point touched by the individualist countries in the crisis. If it is a damning reproach for capitalism that it has not been able to distribute properly the plenty it has created, it is a more damning reproach for socialism, in the one country where it has been tried, that it has created no plenty to distribute. The Soviet Union has yet to meet the challenge implied in Lord Balfour's statement, in a note addressed to Chicherin, the Soviet Foreign Minister, that Bolshevism, while an excellent means of making rich men poor, was a highly questionable means of making poor men rich. . . .

Socialism cannot be a road to plenty because it cannot be a road to freedom. And there is not a single demonstrable exception in any country to the proposition that relative plenty and free institutions are invariably associated.

—William Henry Chamberlin in *Collectivism: A False Utopia*
The Macmillan Company, 1937

REGULAR, frequent exposure of as much of the body as possible to sun and air is a desirable practice. It can, however, be seriously overdone and should not be continued when one feels uncomfortable or overheated. Too many outdoor enthusiasts are inclined to shrug their shoulders at the dangers of overexposure to the sun. Aside from the temporary discomfort, a sunburn may cause serious and disabling illness. Some authorities believe, for example, that cancer of the lip found among farmers may have its origin in repeated and long-continued exposure to brilliant sunlight. It will be wise, therefore, to acquire one's tan gradually beginning with a five-minute exposure, lengthening the period to ten minutes a day for the next ten days. For those who redden and peel but do not tan, direct exposure of the skin to the sun's rays for any considerable time had best be avoided. A severe case of sunburn should be treated by a physician.

According to a trade journal, there are three types of substances used in sunburn lotions to prevent burn. These include: opaque substances, such as zinc ointment, cold cream, or oil, which form a protective coating and filter out a portion of the light that would otherwise reach the skin; fluorescent substances, such as quinine sulphate, which selectively filter out the ultra-violet rays; and tanning substances, such as tannic acid, which are supposed to tan the skin and decrease its sensitiveness to light before the sun gets in its work. No attempt was made by Consumers' Research to

From Consumers' Research *Bulletins*, June and September, 1936

determine the nature of the ingredients of the various lotions tested. Only their efficacy as screening agents was determined. It is interesting to note, however, that oil preparations proved to be not so effective in preventing sunburn as other types of lotions.

There are many products on the market for which claims of preventing sunburn are made. Some will be of great benefit in screening out a part or most of the ultra-violet rays which cause the trouble, and others are of little or no value. Of thirteen brands tested, we recommend those which follow. The recommendations were made on the basis of the product's efficacy in preventing a burn on the tender skin of the underside of the forearm of a person whose skin reddens but does not tan. The *Recommended* creams and lotions afforded almost complete protection against a light judged to be roughly equivalent to two hours of June sunlight in the latitude of Washington, D.C.; those given a *Qualified Recommendation* afforded fair protection under the same condition of exposure.

### Recommended

*Ardena Sun-Pruf Cream* (Elizabeth Arden, 691 Fifth Ave., N.Y.C.) $1.

*Coty Sunburn Lotion* (Coty, Inc., 423 W. 55 St., N.Y.C.) $1.

*Dorothy Gray Sunburn Cream* (Dorothy Gray, 683 Fifth Ave., N.Y.C.) $1.

### Qualified Recommendation

*Helena Rubinstein Valaze Sunproof Cream* (H. R. Laboratories, Inc., 8 E. 57 St., N.Y.C.) $1.

*Primrose House Beach Oil* (Primrose House Sales Co., Inc., 400 Madison Ave., N.Y.C.) $1.

*Noburn* (Strong, Cobb & Co., Inc., Lisbon Road and Evans Ave., Cleveland; distrib. A. G. Spalding & Bros.) $1.

*Sun Tan Oil* (Richard Hudnut, 113 W. 18 St., N.Y.C.) 75c.

# CONSUMPTION AND ECONOMIC WELFARE

*By*
CHARLES S. WYAND

AT some future time, historians will inspect with considerable interest the sequence of events we now call the day's news. And of all this news, none will be found more interesting than the processes by which we have come to look upon the politically expedient maneuvers of the last few years as "economic reform." It is conceivable that many a student, fifty years from now, will be hard pressed to explain how sane human beings could have believed that crop curtailment, price manipulation, and wage increases would automatically foster the economic welfare of the nation. And yet, if one were to believe the utterances of many of our more prominent public and private officials, fewer goods and higher incomes would carry us to economic Utopia in a figurative overnight. What is more important, these utterances are believed by millions of people.

* * *

There was once a man who, while walking along a city street, became violently ill and within a few moments collapsed and fell on his face on the sidewalk. A physician was called, and on his arrival the good medico queried, "What is the matter with this man?"

One of the bystanders spoke up. "We do not know, sir," he said. "All we know is that the poor man fell on his face as we were passing by."

"We shall soon have him cured," said the physician cheer-

fully. And calling for some stout sticks, he propped the sick man up, fore, aft, and on each side, so that the patient was again upright, although rather limply so. The medico then packed his kit and was about to leave when one of the bystanders asked in surprise, "Is this all you expect to do for the patient?"

"Why, of course, it is," replied the doctor. "You agreed with me that the man's trouble lay in the fact that he could not stand up. I have restored him to his feet as you can see. What more need be done?"

"But," persisted the bystander, "the man fell down because he was sick. His illness was the cause of the fall. You have not helped him therefore. You have treated the *effect* of his illness and not the *cause* of it."

At such impertinence the physician naturally became quite angry. "I see," he thundered, "that you laymen know nothing of the science of medicine! We who have devoted our lives to medical research *know* that falls are very significant and in and of themselves dangerous. Why I once had a patient who broke his arm in a fall! Moreover it *should* be apparent that when men are dead they are usually (to employ a scientific term) horizontal, and when they are alive they are usually vertical. And yet, in the face of such empirical evidence you dare to question the diagnosis and the prescription of a man long trained in medical lore! Pooh . . . and bah!"

And without further comment the outraged physician stepped into his twelve-cylinder car (which was in itself material evidence of his success as a healer) and was whisked away in a cloud of dust leaving the sick man to sway rather awkwardly in the breeze.

"A likely story," you snort. "Sheer phantasy! No man in his right mind would be so stupid."

In answer to your indignation I can only point to what our political friends call "the record." If we shift our story enough to substitute "administration economist" for "phy-

sician" and "the national economy" for "the sick man," the story cited would be, in fact, an understatement of the truth. All scoffers are invited to begin with the symptoms.

We have, for example, a critical agricultural situation, the seriousness of which can be seen in the collapse of farm prices. The farmer, economically speaking, did fall on his face and, one might add, he did it with a resounding smack. Similarly, due to technological unemployment and a variety of other factors, labor finds itself in an equally serious predicament which can be measured in terms of declining wage rates and increasing unemployment. In both cases it should be noted that the economic ills found expression in the collapse of prices—the price of farm products and the price of labor. And (need it be added) collapsing prices were a *symptom* of the seriousness of our agricultural and industrial ills and not a disease in themselves.

As in our story, the economic physicians appeared on the scene soon after the crash. However, in the true story, there was not one physician but scores of them, and each one had his own opinion as to just what was the matter and what should be done about it. The ensuing consultations were hardly dignified, but they were interesting. From time to time one or more of the learned men were literally tossed out of the inner circle. Eventually a diagnosis was reached. The farmer's economic trouble was collapsed prices. The laborer's ill was low wages. Prescription? Prop up farm prices and industrial wages by any means whatsoever until they resume their 1926 position.

That is precisely what we are doing today. In an effort to bolster farm prices, farmers are (still) being paid *not* to produce; when prices begin to sag, government agents rush into the commodity markets and buy up vast quantities of farm products—with government funds, that is, your money and mine, of course. Protective tariffs are run through federal and state legislatures, and every other technical aid that might economically prop up the farmer is employed. In a

similar fashion, no legislative or administrative stone is being left unturned in an effort to raise wages and shorten working hours. And, to complete our story, when the bystander asks why, the economic medicine men point to the low prices of depression periods and to the high prices of prosperity periods just as our mythical physician told us that dead men are usually flat on their backs while living men stand erect.

But our economic physicians go further than we dared go in our phantasy. Instead of merely assuring us that by propping up farm prices and wage rates they are curing the nation's agricultural and industrial ills, they proceed to a further conclusion, viz., that the farmer's welfare and labor's welfare are synonymous with the national welfare! In other words, we are informed that when the farmer gets high prices for his corn, wheat, and hogs, the nation is *as a result* economically better off than it was before. By the same process, high wage rates are assumed to produce national economic progress. An equivalent statement would exist if we were to have the doctor in our story argue that by propping up the sick man he not only cured the patient but helped the rest of the human race as well.

The term, *economic welfare,* has of course been variously defined, but in all cases it is correctly stated or assumed as a basic premise that economic welfare is fostered *by increasing the volume of goods and services available for use.* That is to say, economic welfare rests on, and is measured by, per capita consumption. It has, fundamentally speaking, nothing to do with money incomes or prices. It refers to the number of wants a given people are able to satisfy through the consumption of the goods they have produced. This being the case, one might assume that any governmental activity designed to foster national economic welfare would, in some way or other, encourage production so that more goods might be produced and more wants appeased. Yet we find our present statesmen encouraging the curtailment of output and the reduction of the length of the working day. Why?

In practice, in a democratic country, the most potent political groups dictate governmental policy. To remain in power, all administrations serve *first* those who are deemed to be most capable of swaying elections. On this basis, the politically important farm vote has been able to force such statutes as the Agricultural Adjustment Act and the Soil Conservation Act through the legislative mill. The result has been a temporary increase in farm incomes, not through increased production, which would serve all the people, but through curtailed production and rising prices. All of which means that the farmer has prospered at the expense of the consuming public, which is numerically large but unorganized and therefore safe to ignore politically.

In similar fashion labor has been politically served. With the growth of labor's political influence and assumed power to make or break politicians, federal and state governments have shown increasing willingness to do everything in their power to raise industrial wages and to shorten the working day. This means curtailed (or at best constant) production at increasing costs. Since enterprise never does, and simply cannot, absorb all of the increased labor cost, retail prices are raised and the consumer again finds himself contributing to the economic welfare of a particular politically powerful group. In this connection, it is interesting to note that urban wage workers *as consumers of farm products* contribute to the farmers' expanding incomes. Conversely, *the rural consumer* of industrial products contributes to the wage workers' pay increases. And the middle-class salaried worker contributes to both groups simply because he is politically impotent, and legislators, presidents, and cabinet members do not fear his vote. We thus have an interesting picture of the farmer and the laborer lifting themselves by their economic bootstraps with a generous boost for both from the urban middle class, and the unemployed and underemployed poor of both city and country.

We are, in other words, increasing our incomes as producers by raising the prices we pay for goods as consumers.

We are trying to exploit ourselves; and, in the process, are making the fundamental error of assuming that money incomes have meaning without reference to the goods and services such incomes will command.

Economic progress really lies in the direction of more production, not curtailed production. It implies lower prices, not higher prices. And it demands growing consideration of consumption and of the needs of the consumer rather than repeated and heightened exploitation of the consumer. Until these facts are recognized, our economic life will continue to offer a clear but awful record of what happens when economic stupidity joins forces with political opportunism to exploit a nation for the temporary economic benefit of the national groups which are politically potent at the moment.

*LA PREUVE (The Proof).*

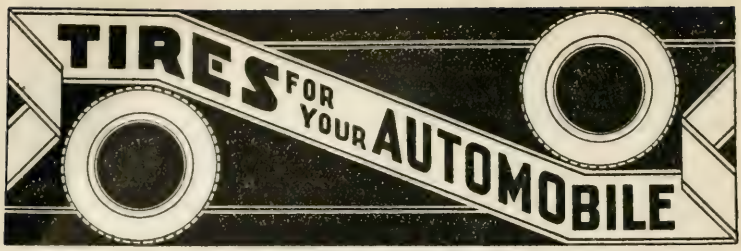
*—Moi, grand médecin.*

*—Bien, avez-vous de l'aspirine sur vous?*

*"Me, great doctor."*

*"Well, have you any aspirin on you?"*

*(Sydney Bulletin.)*




AUTOMOBILES in the lower-price groups are usually supplied with first-line four-ply tires as original equipment. Six-ply tires are designed for heavier cars and also for heavy duty. In purchasing tires for replacement, the following should receive consideration:

A person driving less than 5,000 miles a year and over well-kept roads should consider that his tires will be damaged as much by weather deterioration as by wear. A lower-priced, second-line tire would be more economical in his case.

When tire failure is due principally to wear, use the better grades. High speed, particularly in hot weather, and with heavy loads, will wear rubber off rapidly. The risk of high-speed driving may warrant the extra safeguard provided by the better grades.

The majority of the first-line tires are sold with a guarantee, which, however, should be carefully read before making the purchase. Some of these guarantees have exception clauses which look innocuous, but turn out to be of the utmost importance when redress is sought. Some distributors' guarantees are free from any such exception clauses.

To obtain the maximum mileage from your tires, their position should be changed at regular intervals, say, three or four times a year, e.g., moved from wheel to wheel in a clockwise direction around the car, including the spare tire; to obtain the value of the money one has invested in the spare tire, it should be given as much use as the other tires on the car.

From Consumers' Research *Bulletin*, September, 1936

Of nineteen brands tested, we recommend those which follow. The recommendations, which are in alphabetical order, refer to the company's first-line tires only.

RECOMMENDED

*Armstrong* (Armstrong Rubber Co., West Haven, Conn.)
*Firestone* (Firestone Tire & Rubber Co., Akron, Ohio)
*General* (General Tire & Rubber Co., Akron, Ohio)
*Goodrich* (B. F. Goodrich Rubber Co., Akron, Ohio)
*Goodyear* (Goodyear Tire & Rubber Co., Akron, Ohio)
*Kelly-Springfield* (Kelly-Springfield Tire Co., 405 Lexington Ave., N.Y.C.)
*Overman* (Overman Cushion Tire Co., Inc., 30 Rockefeller Plaza, N.Y.C.)

QUALIFIED RECOMMENDATION

*Denman* (Denman Tire & Rubber Co., Warren, Ohio)
*Dunlop* (Dunlop Tire & Rubber Corp., Sheridan Dr. & River Rd., Buffalo)
*Fisk* (Fisk Rubber Co., Chicopee Falls, Mass.)
*General Dual 10* (General Tire & Rubber Co.)
*Hood* (Hood Rubber Products Co., Watertown, Mass.)
*Lee* (Lee Rubber & Tire Corp., Conshohocken, Pa.)
*Miller Geared-to-the-Road* (Miller Rubber Products Co., Akron, Ohio)
*Mohawk* (Mohawk Rubber Co., Akron, Ohio)

### Retreaded Tires

It is preferable to have your own worn tires that are known to have good carcasses retreaded than to purchase retreaded tires from stock, as serious defects are readily concealed by the use of lining cement or by painting the inside.

The best results from retreading can usually be obtained if the tire is sent to the original manufacturer. The serial number should always be taken to insure one's receiving the same tire back. If the retreading is done by a firm which uses good material and workmanship, some saving will probably result from retreading a worn tire which shows no flaws or defects. Sometimes in retreading, the new tread is

not uniformly distributed and the tire is, therefore, not so perfectly balanced nor so durable as it should be. Such tires may be satisfactory where high-speed driving is not a factor.

**Oversize and "Doughnut" Tires**

The use of oversize tires, including so-called "doughnut" tires, is, in general, not recommended. In the majority of cars, the use of any tire which is larger than that which is standard for the car will induce steering troubles or shimmy at high speed; may cause axle tramp at low speed; and will tend to increase the seriousness of any road accident that may occur as the result of a blowout.

***Trichinosis in the United States***

Today it is no unusual thing for the pork trimmings from 100 or more hogs to be made up into sausage or some other pork product, in one of our large packing establishments. The effect of this appears to have been stated first by Ransom (1915). If we have today approximately the same percentage of trichinous swine, as Hall's (1935) report and Schwartz's (1936) report indicate, the chance of becoming infested with trichinae from eating raw or undercooked sausage or similar pork products is vastly greater than it formerly was, since the trimmings from one trichinous hog will be mixed with the trimmings from 99 uninfested hogs in such a way that practically all of the trichinae present will be more or less uniformly distributed throughout the product.

The following point is emphasized: That the United States apparently has the greatest problem of trichinosis of any country in the world, a problem involving, in one way or another and in some degree, several million persons. The incidence in man is greater than the incidence in garbage-fed hogs.

*Public Health Reports,* April 16, 1937

# *AUTOMOBILE INNER TUBES*

RUBBER deteriorates rapidly with age. Thus in purchasing inner tubes, every precaution should be taken to ensure that one is not receiving old stock. A simple method to guard against old stock is to remove the tube from the carton and spread it out; if it tends to hold the folds which it had in the package too sharply, it signifies that it has lost some of its resiliency and is old stock and should, therefore, be rejected. Fresh tubes will show little of the original fold characteristics. Likewise, tubes which show slight surface checking (marks like incipient cracks) when small areas are stretched as much as possible by hand or by inflating the tube slightly should also be rejected.

Tests have been carried out on sixteen brands of automobile inner tubes representing all of the prominent manufacturers in this field. The tests made were selected to permit the determination of the significant properties of the tube as purchased, the physical properties of the rubber, and the changes in these physical properties as samples cut from the tubes were subjected to aging in an oxygen bomb. The physical tests included determinations of (1) tensile strength, (2) elongation, (3) set (i.e., the increase in length of a one-inch section of tube stretched to six inches for a period of ten minutes, released and allowed to rest for ten minutes before measuring), (4) hardness, (5) elasticity. Determinations of tensile strength, elongation, and set were made in exact accordance with Federal Specification ZZ-R-601.

Inner tubes in normal service are subject to the action of heat, compressed air, abrasion, and mechanical flexing, these being the principal destructive agents. The oxygen bomb aging test is one test used as a means of simulating, in a short period of time, the slow action of heat and oxygen in the compressed air within the tube. No customary tests are available to predetermine effects of abrasion and mechanical work. The physical properties of small specimens, determined after definite intervals in the oxygen bomb, give how-

From Consumers' Research *Bulletin,* April, 1937

ever some indication, it is believed, of the rubber's ability to resist destructive mechanical forces. The Bureau of Standards in its Circular 38 states in part that, "The accelerated aging of rubber compounds as an indication of their durability in actual service is an important consideration to the manufacturer and consumer. . . . The results obtained may be misleading when the conditions of vulcanization and composition of the compound are unknown."

It seems clear, from information available, that there is much room for argument about suitable methods for testing inner-tube rubber, and it is certain that no oxygen bomb or similar test alone can be used to make close distinctions between various makes of tubes. No one can possibly estimate accurately the service life of a particular piece of tube stock when its composition and cure are unknown and when, in addition, the antecedent history of the individual sample as to temperature, exposure to air and light, etc., and its age, are unknown. Considerable effort was therefore expended in devising methods for rating the tubes which would be dependable in so far as these conditions permit.

The following recommendations were therefore determined on the basis of, first, compliance with the requirements believed to determine the best tube stock and, second, compliance with dimensional limits set by the federal specifications. In turn, the best tube stock was judged to be that which, as received, had superior properties as to strength, elasticity, freedom from set, compressibility, and which best maintained these properties during the aging tests.

Of sixteen brands tested, we recommend the ten which follow.

### Recommended

*Dunlop* Grey (Dunlop Tire & Rubber Corp., Buffalo, N.Y.) $2.29.

*Fisk Ariel* Heavy Duty (Fisk Rubber Corp., Chicopee Falls, Mass.) $2.25.

*Hood Red Arrow* (Hood Rubber Co., Inc., Watertown, Mass.) $2.35.

*Overman Supermatic* (Overman Cushion Tire Co., Inc., Belleville, N.J.) $2.50.

*General* Heavy Duty, Molded (General Tire & Rubber Co., Akron, Ohio) $2.70.

*Goodyear* Heavy Duty (Goodyear Tire & Rubber Co., Inc., Akron, Ohio) $2.90. All properties of this tube remained virtually the same after aging, except the set, which was improved. Tensile strength and elongation were well above average.

### Qualified Recommendation

*Kelly-Springfield* Heavy Duty (Kelly-Springfield Tire Co., 1775 Broadway, N.Y.C.) $2.40.

*Yale* (Yale Rubber Co., Inc., Akron, Ohio) $2.40.

*Goodrich Silvertown* Gold & Black (B. F. Goodrich Co., Akron, Ohio) $2.90.

*Lee Bevel Weld* (Lee Tire & Rubber Co., Conshohocken, Pa.) $2.90.

### The Advertising Man

*Glorifying pink chemises, eulogizing smelly cheeses*
*Deifying rubber tires, sanctifying plumbers' pliers,*
*Accolading rubber panties, serenading flappers' scanties,*
*Rhapsodizing hotel fixtures, sermonizing on throat mixtures,*
*Some call us the new town-criers*
*Others call us cock-eyed liars!*

*—Ascribed to Ring Lardner*

**General Warning**

INSECTICIDES and fungicides are *poisons.* They are used respectively to destroy harmful insects and minute forms of parasitic plant life (fungi) that are injurious to man's ornamental and garden crop plants. All such poisons are dangerous and none is foolproof. Although all the definite known casualties that have occurred from their use would not equal those caused in a month by automobiles, nevertheless extreme care is called for. Like fast automobiles, the conditions of the times have seemed to demand the use of poisonous insecticides. Not only has the balance of nature been upset by modern methods of agricultural production with large areas devoted to growing plants that would not persist in a given locality except for man's aid and care, but modern types of transportation have rendered easy the rapid dissemination of pests and diseases to every corner of the country. It should be remembered that a large portion of the plants used in our flower and vegetable gardens are neither native to our soils nor completely adapted to our climatic conditions. It may so happen that the natural control by other insects, birds, parasites, etc., of enemies of such imported plants does not exist in this country or a given part of it and that such plants, therefore, grow here under a handicap due to the lack of various natural restraints upon their insect or disease foes. Man, then, if he will grow the non-native species, must supply an artificial protection for these plants against their enemies, in the form of insecticides and fungicides.

From Consumers' Research *Bulletin,* May, 1937

While progress is being made in breeding disease-resistant strains among plants, this is a long range problem probably not possible of attainment in many cases, though certainly one of the outstanding needs for home as well as professional gardeners. Meanwhile, gardeners are, in most cases, forced to use *poisons* in order to produce satisfactory crops, although not infrequently a secluded garden will escape certain types of pests. Various small fruits, as mentioned in the March, 1937, *Consumers' Digest,* can be grown with little or no spraying.

One should take extreme care to keep all sprays and dusts, and appliances with which they are used, in a place where children or pets cannot reach them. The user should take care to stay to the windward, as far as possible, when spraying or dusting. Caution should be exercised in avoiding actual contact of the hands, or any part of the body, with any and all of these materials.

A realization of the deadly hazards offered by many sprays should dictate under what circumstances and how late they may be used. For example, cauliflower after starting to "head up," should be sprayed or dusted only with materials which evaporate, like nicotine, or lose their toxicity without leaving a poisonous residue, like rotenone; whereas cabbage, the outer leaves of which will be removed, may with some degree of safety be sprayed to within a few days of harvest. It is most important to use sprays only at the recommended concentrations as advised by the manufacturer and by state experiment stations and other official bodies. Many gardeners have greatly increased the hazard to consumers by using sprays in too concentrated form and in many cases actually dusting the powdered lead arsenate on the plants, under which circumstances an individual might, indeed, receive a fatal dose on a single leaf of cabbage or celery.

All fruits and vegetables should be washed before using for the sake of the additional factor of safety afforded, but it must be fully understood that home washing cannot be

relied upon as an effective method of removing spray residues.

### Prevention

It is not true that a healthy plant is perfectly safe from pests; some insects prefer to eat healthy tissue, and a few diseases attack the strong and weak impartially; still, weakness always invites attack and is the required condition for certain troubles. Prevention, therefore, begins with the choice of plants suited to the soil and location, the purchase of healthy and, if possible, disease-resistant varieties, and good gardening methods designed to keep the plants growing without a check. When the attack is conditioned by already existing weakness in the plant, it is necessary to discover and deal with the cause of weakness as well as to combat the specific insect or disease present. Sometimes, as when a recently planted tree is riddled by borers, there is nothing one can do but destroy the plant and its enemies, together.

### Simple Measures

Rotation of crops, for annuals and vegetables, helps to prevent the accumulation of disease in the soil. *Clean culture* means weeding (outside as well as inside the garden, for pests often live on weeds), destruction of seriously weakened and diseased plants, and removal of all plant debris every fall whether it is known to be infected or not. If not infected, it may be used in the compost pile.

Sprinkling during hot, sunny weather is best done in early morning or evening to avoid sun scorch of plants when strong sunlight shines on moist foliage. It should never be done on seedlings in greenhouses and cold frames in the evening because, when water does not dry off, spread of disease may be favored. The sudden death or *damping-off* of seedlings may be prevented by thin and shallow sowing and careful watering, but usually the soil or seed must also be treated with a fungicide, when such damping-off is a serious difficulty.

Sprays and dusts often are ineffective and injurious to plants. In the home garden when control can be effected by simple means, such as the removal of badly infested or diseased parts, hand picking and killing of insects, spraying with water under pressure, etc., these methods are preferable. Not only are sprays dangerous to people, but accumulated in the soil they are poisonous to, and interfere with, the growth of plants which absorb them and may find their way through the plant tissue in limited amounts into the food supply of humans who are already exposed in far too many ways to dangerous metallic poisons. (See Chapter XIV, in *Eat, Drink and Be Wary,* especially page 258.) Plants absorbing selenium from the soil on which they were grown are known to have seriously poisoned persons eating them and have frequently caused fatal poisoning of farm animals. Some insects are beneficial, e.g., ladybugs which destroy scales and aphids; try to be sure a given kind of insect is actually doing harm before proceeding against it.

### Materials Required

The gardener who is supplied with rotenone, nicotine sulphate, a spray soap, either wettable or dusting sulphur, lead arsenate, and trioxymethylene powder or formaldehyde dust can take care of most common insect and disease problems of plants. The remaining problems concern the less common insects and diseases that require special treatments. Usually the problem is local, and the treatment depends on conditions which should be diagnosed by a specialist familiar with the problems and climate of the region. The staff at state experiment stations and county agents for state extension services will give needed advice and directions to anyone.

### Diagnosis

#### *Insects*

In order to use intelligently the few necessary materials mentioned in the preceding paragraph, the gardener must be able to determine which of three different classes of pests,

namely chewing insects, sucking insects, or disease infections, is doing the damage to his plants. Caterpillars, worms, slugs, beetles, and grasshoppers are chewing insects (they bite off and swallow pieces of plant tissue) and are controlled by a *stomach poison.* Sucking insects include plant lice or aphids of various colors on leaves, stems, flowers, or roots; scale insects under scales of various descriptions, usually on the thin bark of trees and shrubs; tiny, almost invisible mites whose work is often mistaken for disease infection, e.g., greenhouse "red spider" (yellowed leaves, eggs pearly white under lens), cyclamen mite on delphinium (curled leaves and blackened flower buds); and various "plant bugs," some of which look like beetles and some like flies but all of which have sucking mouth-parts and are not affected by stomach poisons. The sucking type of insect must be combated by *contact insecticides* which kill by their burning action, by poisoning through the breathing apparatus, or by suffocation. The nature of the injury will classify the insect in doubtful cases. When no holes appear in the foliage, and no layers of plant tissue have been eaten, the injury is evidently caused by a sucking insect which should be combated by a "contact insecticide."

### *Diseases*

The commonest diseases can be easily recognized. Powdery mildews make white blotches on stems and leaves, usually on the upper surfaces of phlox, rose, and lilac, for example. Rusts show yellow, orange, or brownish powdery pustules on stems and leaves, usually only on the under surfaces, e.g., hollyhock rust. Leaf spots are of varying shapes, sizes, and colors, e.g., black spot on roses. All these are controlled by clean culture (the destruction of parts showing first signs of disease) and by dusting or spraying sulphur. Virus diseases cause dwarfed and abnormal growth and yellow or mottled foliage, e.g., yellows on Chinese aster and other ornamentals, and mosaic on petunias and tulips (which also show mottled flowers). Since aphids and leaf hoppers

are responsible for the spread of virus diseases, the checking of them, in ordinary good garden practice, involves the destruction of weeds in which they might breed, and the use of contact insecticides.

Crown and root rots (delphinium, columbine) and wilts (China aster) are caused by soil-inhabiting fungi, and since they require a variety of treatments, may be considered to be special diseases for which one should consult one's State Experiment Station or state agricultural bulletins. However, the choice of disease-resistant varieties, the use of fungicidal dust in the seed beds, good surface and subsurface drainage, and rotation of crops are important preventives. Treatment against rot for perennials usually involves drenching the soil with a corrosive-sublimate solution.

If you are in doubt about what ails your plants, consult your county agricultural agent, State Experiment Station, or Agricultural College. The treatment of diseases and pests is a subject of continued research and the institutions just named can provide the latest information. This research, however, was, originally, devoted almost one hundred per cent to problems of killing insects and controlling fungi and disease, and practically no attention was given by experiment stations and other expert agencies to the problems which the use of poisons raises for the ultimate consumer of the product of the farm or garden. That is, the human toxicity of these chemicals is an aspect of the subject on which the least work has been done and, until recently, only trifling expenditures have been made by governmental and other authorities. At present, the major portion of funds allotted to spray work is being used in spray residue studies.

### The Treatment

#### *Dusting vs. Spraying*

For completely reliable results in getting rid of pests, both dusting and spraying are required. If a choice of one or the other must be made, spraying, by painstaking gardeners with proper equipment, should be sufficient; unfortunately, thor-

ough spraying is difficult because there is no good small sprayer on the market. Dusting, although not completely adequate, is preferable for many people because it is more convenient. More applications are required, but dusts are inexpensive and easy to make at home. The principal drawbacks of dusting are that it commonly discolors open flowers, that one is more likely to inhale dusts than sprays, and that it fails against a few pests. The man who prefers dusting may be obliged to do some spraying also.

### *Spray Injury*

Since high temperature and humidity increase spray injury, dry, cloudy days are best for spraying and dusting. In a blazing sun, even drops of pure water may burn foliage. Do not make spray solutions stronger than is recommended. Some materials are intrinsically safer than others. In general, plant extracts (nicotine, pyrethrum, derris) are safe for plants unless the mixture is much too strong, but many chemicals and oils may be dangerous. Possibilities of injury are noted below, under specific materials.

The authors of this article have noted in the following paragraphs the materials which they have personally found satisfactory or unsatisfactory. A large number of commercial products have not been included for one of three reasons: (1) the available test data are not sufficient to permit fair judgment; (2) the materials are unknown to the authors; or (3) a sufficient number of perfectly satisfactory substances in the same class are already recommended to fit the conditions of any amateur gardener, and inclusion of others would add little of importance and be merely confusing. Readers about to use commercial brands not mentioned here should understand that they are trying an experiment, which may prove costly or otherwise. There are many differences in practice between the action of insecticides of nominally the same composition. Chemical science has not yet advanced sufficiently far that the performance and lack of harm to the plant of even so simple a chemical as lead

arsenate can be completely predicted by a knowledge of its chemical composition.

### Contact Insecticides
*(For Sucking Insects)*

These are always best when used alone or with necessary spreaders. (See section on *Carriers and Spreaders.*)

#### *Soap*

Any mild soap works fairly well against aphids, but never as well alone as with nicotine, pyrethrum, or rotenone. Soap does not stain flowers.

#### *Nicotine*

Nicotine kills soft-bodied sucking insects, e.g., aphids (plant lice) and scale insects in the crawling stage, but *not* red spider. It works best at high temperatures. It stains flowers. It is the chief killing agent of many proprietary insecticides whose only excuse for existing is that the basic material, nicotine, *requires* a spreader, usually an alkaline soap. Ordinary laundry soap is excellent. Since nicotine and soap are readily available, cheap, and easily mixed, there is no reason ordinarily for paying a manufacturer to combine them. Nicotine sulphate may be added to any other spray material. If the bottle is kept tightly corked, it will keep several seasons. Buy any forty per cent nicotine sulphate recommended, on a price basis. Nicotine is a *contact poison.* Do not get it on your body or clothes.

#### Recommended

*Black Leaf 40* (Tobacco By-Products & Chemical Corp., Louisville, Ky.)

*G & O 40% Nicotine Sulphate* (Goulard & Olena, Inc., N.Y.C.) At Sears, Roebuck & Co. the price is a little lower than that of *Black Leaf 40.*

*Nicotine Dust,* homemade. Mix fresh in small quantities for immediate use. Very efficient in hot weather. Sprinkle five teaspoonfuls of 40 per cent nicotine sulphate on one pound of hydrated spray lime, put in a can with a few pebbles, and shake to break lumps.

*N.P.C. Nicotine Sulphate 40%* (Nicotine Production Corp., Clarksville, Tenn.)

*Nicotrol* (Kay Fries Chemicals, Inc., 180 Madison Ave., N.Y.C.) $1.25 for one quart; makes 50 gallons. Nicotine sulphate and a volatile-oil spreader. Must be used stronger than manufacturer's recommendations for some insects, e.g., leaf hoppers.

*Nicotine Dusts,* commercial. Once the package is opened, the nicotine loses strength rapidly. Satisfactory if used at once, more expensive than homemade, but useful if you wish to avoid mixing your own.

### Pyrethrum

Pyrethrum is for soft-bodied insects, including certain small worms, but not for red spider. Kills by paralysis and may take forty-eight hours. The residue is non-poisonous. More expensive, in effective amounts, than nicotine or rotenone. It is primarily a special-purpose insecticide for vegetables, where it replaces arsenicals fairly well against soft worms. Buy only one season's supply, because it loses strength with age. Deteriorates when exposed to air. Do not combine with sulphur, except for immediate use. The dusts discolor open flowers, but pyrethrum sprays do not. *Be careful not to breathe the spray vapor any more than is absolutely necessary* (see *General Warning*).

#### Recommended

*33% Pyrethrum Dust* or *Pyrethrum Spray,* homemade. Pays if *fresh* pyrethrum powder and other materials are obtainable. To prepare dust, shake in a box with a few pebbles: one part fresh Japanese pyrethrum powder having at least .9 per cent pyrethrins—20 to 75 cents per pound—and two parts *Inert C* (*Treni* dust, see *Carriers and Spreaders*)—2 to 5 cents per pound. To prepare spray, mix at the rate of one pound of pyrethrum powder to 50 gallons of water and add a spreader of ¼ to ½ pound of lignum pitch (*Binderine, Goulac*). Perfect mechanical mixture is unnecessary. Freshness of pyrethrum cannot be

tested by any simple means. Never buy from stocks in drugstores, which may be of almost any age. Recognized seed stores and insecticide companies can get it for you, but make sure that your purchase is from a new shipment. A greenish tint indicates inferior quality.

*Black Arrow Insect Dust 5000* (McCormick & Co., 400 Light St., Baltimore) 50 cents per pound; $1.80 for five pounds.

### Qualified Recommendation

*Evergreen* (McLaughlin-Gormley-King Co., Minneapolis) A special-purpose insecticide of limited use, like every other exclusively pyrethrum product. Good in its proper field.

*Kaloil* (Kaloil Co., Quincy, Ill.) Pyrethrum and a volatile-oil spreader.

### Rotenone

Rotenone from derris and cubé root kills, chiefly by paralysis, within three to forty-eight hours. It is safe for plants and the residue is non-poisonous. If applied strong enough and thoroughly enough, kills *any* insect, but cost is high. Very effective for red spider, but for this purpose must often be used stronger than the manufacturer recommends. In effective amounts it is cheaper than pyrethrum, but more expensive than nicotine sulphate. The dusts discolor open flowers, but the sprays do not. Dusts most effective on moist foliage.

A dilution containing 0.5 per cent rotenone will kill worms present when the dust is applied, but will protect foliage for about three days only. A one per cent dilution has been found, in certain unpublished experiments, to afford as good protection against cabbage worms as arsenicals. Since rotenone loses strength with age, not more than one year's supply should be bought. If there is any doubt as to its freshness, a one per cent dilution may be advisable.

Rotenone loses its toxicity quickly in sunlight, consequently it is more efficient in cloudy weather or in shade. It is also a *poison* and one of the authors of this article has had more

unhappy experiences with rotenone in one year than in twenty-five years with lead arsenate.

RECOMMENDED

*McCormick's Rotenone Dust* (McCormick & Co., 400 Light St., Baltimore) 0.75 per cent rotenone. Sold only in 100-pound lots.

*Homemade Derris Dust and Spray.* As a dust, shake in a box with a few pebbles 3½ pounds of *Inert C* (*Treni* dust, see *Carriers and Spreaders*) 2 to 5 cents per pound—and ½ pound of fresh four per cent derris dust—35 to 70 cents per pound. This gives 0.5 per cent rotenone. For a one per cent dilution, use three pounds of *Inert C* to one pound of 4 per cent derris dust. As a spray, mix at the rate of 1½ pounds of derris powder to 50 gallons of water and add a spreader of ¼ to ½ pound of lignum pitch (*Binderine, Goulac*). Recognized seed stores can get derris dust for you, but make sure it is from a fresh shipment. The Frost Insecticide Co., Arlington, Mass., sells fresh derris and *Treni* dust in small quantities.

*Ku-ba-tox Liquid* (Ansbacher-Siegle Corp., N.Y.C.) Did well in tests.

*Rotecide* (Rotenone Products Co., East Orange, N.J.) Derris spray.

*Derox* (Bowker Chemical Co., 419 Fourth Ave., N.Y.C.) 30 cents for one pound; 95 cents for four-pound bag. 0.55 per cent (when packed) rotenone dust from derris.

*Ku-ba-tox* (Ansbacher-Siegle Corp.) Dust from cubé.

*Rotecide Dust* (Rotenone Products Co.) 30 cents for one pound. One per cent rotenone dust from derris.

**Rotenone-Pyrethrum Mixtures**

These are true general-purpose insecticides (see *General Warning*).

RECOMMENDED

*Homemade Spray* made by mixing in equal proportions the homemade pyrethrum and derris sprays already described under *Pyrethrum* and *Rotenone.*

*D.P.T. Dust* (Frost Insecticide Co., Arlington, Mass.) Fresh derris, pyrethrum, and *Treni* dust. Same price as commercial derris dusts; contains enough pyrethrum besides to kill soft worms.

*Red Arrow Insect Spray* (McCormick & Co., 400 Light St., Baltimore). The most *widely useful* liquid insecticide. For a spreader, any neutral soap, such as *Ivory, Walgreen's* Coconut Oil, or *Gondola* White Floating Soap will do; or a pure chip and bead soap, *Palmolive* Beads, *Kirkman's* Soap Flakes, etc.

### Oil Sprays

These are contact insecticides, especially for dormant use, effective against scales, mites, and insect eggs. Do not use on sugar maple or Japanese maples, beeches, or black walnut, or when a freeze is expected within forty-eight hours. (Oils remove the bloom from bluish evergreens.) Painting the diluted spray on the infested bark is often the best method for small jobs. The effectiveness of sprays and the possibility of their injuring plants depend on so many variables—source of oil, manufacture, climate, manner and rate of application, and susceptibility of plants to oil injury—that specific successful experience in your own section is the only safe guide. *Consult your State Experiment Station or county agent.* Oil sprays are seldom safe on deciduous trees' foliage. Many good oils are unsatisfactory in hand sprayers.

#### Recommended

#### *Oils for Dormant Use*

*Sunoco Spray Oil, Clean up,* and *Dendrol* are satisfactory for dormant use only. Consult your Farm Bureau agent for times and amounts.

*Scalecide* (*without* Fungicide) (B. G. Pratt Co., N.Y.C.) The safest dormant spray.

#### *Oils for Summer Use*

*Nursery Volck* (California Spray Chemical Corp., N.Y.C.) One of the best summer oils, but likely to burn tender foliage. Not very effective against plant lice and thrips if

used alone. On resistant plants, however, at 2½ tablespoonfuls per gallon, the best insecticide known for mites, e.g., red spider. For cyclamen mite on delphinium, add one teaspoonful of 40 per cent nicotine sulphate per gallon of diluted *Volck*.

**Lime-Sulphur**

*Lime-Sulphur Solution.* Fairly effective as dormant spray for armored (hard-shell) scales like San José, euonymus, oyster-shell; but much less effective than oil for soft scales, e.g., cottony maple. Discolors lead paint, corrodes metal, and is unpleasant to use, but never injures dormant plants (except peaches when applied in fall) as many oils do. Nevertheless, a *safe* spray oil is more useful, except on trees which cannot endure any oil. At "summer strength" lime-sulphur often injures foliage. Dry-mix lime-sulphur (spray) is more convenient but more expensive in dormant use. (See also *Fungicides.*)

QUALIFIED RECOMMENDATION

*Orchard Brand Lime Sulphur Solution* (General Chemical Co., N.Y.C.)

*Triangle Brand Lime Sulphur Solution* (Ansbacher-Siegle Corp., N.Y.C.)

*Corona Powdered Lime Sulphur* (Pittsburgh Plate Glass Co., Newark, N.J.)

*Orchard Brand Dry Lime Sulphur* (General Chemical Co.)

*Suspension Sulphurs* (wettable and dusting). Useful in very hot weather against red spiders, especially on evergreens. (See *Fungicides* for listings.)

**Miscellaneous Contact Insecticides**

QUALIFIED RECOMMENDATION

*Kerosene Emulsion,* homemade. Should be fresh every time. For soft-bodied sucking insects, and as a dormant spray for scale. May burn foliage. Less effective than nicotine sulphate or spray oils. See *Farmers' Bulletin 1169* or *1495* (see references at end of article) for formula.

*Lemon Oil* for soft-bodied sucking insects, safe but expensive.

* * * * *

*Note:* Sprays containing selenium are not safe. Selenium compounds are extremely dangerous since plants take up considerable amounts of the element, and the combination of the selenium with the plant tissue may be very much more toxic than a corresponding amount of selenium in the soil.

### Carriers and Spreaders
*(For Dusts and Sprays)*

#### *Inert*

Advisable for use with lead arsenate, fluorides, Bordeaux (see *General Warning*), rotenone, pyrethrum, and sulphur.

#### Recommended

*Treni (Inert C) Dust* (Hammill & Gillespie, Inc., 225 B'way, N.Y.C.; distrib. Frost Insecticide Co., Arlington, Mass.) Lightest carrier for dusts. Very economical for use with expensive killing agents. Does not absorb dampness, keeps indefinitely.

*Loomkill Talc* (W. H. Loomis Talc Corp., Gouverneur, N. Y.) 100-pound bags, $16 per ton, f.o.b. Emeryville, N.Y. An excellent inert carrier for dusts. It is said to have repellent value in itself.

*X-Pulverized Georgia Clay* (Edgar Bros., Co., Metuchen, N.J.) Very good, but not as satisfactory as talc. Delivered prices about the same as those of *Loomkill Talc.*

*Kayso* (California Central Creameries, San Francisco) Calcium caseinate. Goes with any spray material. Loses effectiveness with age.

*Molasses* (at feed stores) 20 to 25 cents per gallon. Five tablespoonfuls in one gallon with lead arsenate, for Japanese beetles and for rose bugs on foliage. (See *General Warning.*)

*Linseed Oil,* one teaspoonful to a gallon. Good spreader and sticker for Bordeaux.

*Grandpa's Wonder Pine Tar Flakes* (Beaver-Remmers-Graham Co., Dayton, Ohio; company fills small orders; distrib. Vaughan's Seed Store, Chicago and N.Y.C.; Frost

Insecticide Co.; and a few others widely scattered over the country) Best buy in neutral fish oil soap. Goes with anything. Acts as aphicide when used alone.

*Gypsum* (lumber dealers) 325 mesh best. Inert, comparatively inefficient carrier, may need sifting. Absorbs dampness. A poor second to *Treni* dust. Satisfactory to use on cucumbers and melons, on young plants.

*Wheat Flour,* inert spreader, may be used for certain insects and for special plants. Use 1 to 1½ tablespoonfuls per gallon of liquid; first make into a paste.

*Pure Flake* or *Bead Soap,* slightly alkaline. Fairly good spreader and aphicide for small jobs.

*Grandpa's Liquid Pine Tar Spray* (Beaver-Remmers-Graham Co.) 25 cents per pint; $1.25 per gallon. More convenient than flakes. Goes with anything.

*Red A Soap* (McCormick & Co., 400 Light St., Baltimore) 60 cents per pint; $2.25 per gallon. Goes with anything but arsenicals.

*C.P.O. Liquid* (Crystal Soap & Chemical Co., Inc., Philadelphia) 60 cents per pint; $2 per gallon. Goes with anything but arsenicals.

**Alkaline**

Used as a spreader for nicotine and in Bordeaux.

**Recommended**

*Hydrated Spray Lime,* in spray or dusts, used with small hand equipment, should be fresh, fluffy, grit-free (test between thumb and finger), pure white, with no gray streaks or lumps. Calcium oxide (which should be declared on the label) not less than 70 per cent. A small proportion of magnesium oxide, a common impurity of calcium oxide, is very desirable when used for Bordeaux. If possible, keep in airtight container. Buy only one season's supply. Use surplus on the soil or in compost.

*Brewer's Snow Fluff Lime* (Green Mountain Lime Corp., New Haven Junction, Vt.) 15 cents for five pounds; 65 cents for 50 pounds. Magnesium-calcium lime.

*Handy Hydrated Lime* (Green Mountain Lime Corp.; distrib. Sears, Roebuck & Co., New England stores) 25 cents for ten pounds. Same as previous listing. Outside of New England, "Handy Hydrate" is a different lime.

*Hydrated Spray Lime* (White Rock Quarries, Bellefonte, Pa.)

*Potash Fish Oil Soap* (James Good, Inc., Philadelphia, or W. H. Owen, Port Clinton, Ohio) Excellent spreader for nicotine sulphate, and used alone, a fairly good aphicide.

**Stomach Poisons**

*(For Chewing Insects)*

Attention must again be called to the fact that ALL INSECTICIDES ARE POISONS, and that everyone must remember that the effect of poisons is not necessarily immediate; that in the case of lead and arsenic compounds, the damage may be delayed for years but that when it occurs it may be extremely serious and beyond remedying through any medical treatment whatsoever. There is a very large medical literature of lead and arsenic poisoning particularly. As stated earlier in this article, these sprays are dangerous, but so is the automobile, and neither the one nor the other is going to be given up or the hazard eliminated in our present complex economic and governmental organization of society on account of the dangers. The incautious will continue to be poisoned by sprays (and the cautious and incautious alike poisoned by spray residues on fruits and vegetables).

As a rough indication of the relative costs of different stomach poisons, the costs of various materials needed for spraying an acre of cabbages to control the cabbage worm are tabulated. Prices are assumed to be 15 cents per pound for lead arsenate, 10 cents per pound for calcium arsenate, 35 cents per pound for derris powder containing four per cent rotenone, 20 cents per pound for 0.9 per cent pyrethrum, one cent per pound for clay or talc, and ¾ cent per pound for hydrated lime.

Lead arsenate and hydrated lime dust (ratio of 1 to 8)

3 pounds lead arsenate per acre..... $.51

Calcium arsenate in same proportions..... .36
Derris (rotenone) with clay or talc (ratio of 1 to 3) 20 pounds of mixture per acre..... 1.90
Pyrethrum with clay or talc (ratio of 1 to 2) 20 pounds of mixture per acre..... 1.57

### Rotenone

Refer to listing of rotenone under *Contact Insecticides.*

### Arsenate of Lead

(*Also Miscellaneous Poisons*)

Although Consumers' Research does not recommend lead arsenate on account of the serious poison hazard involved, the authors of this article hold that it is the most effective general purpose insect stomach poison for use on any plant. It is, moreover, the opinion of the authors that amounts of lead arsenate used by the ordinary home gardener, IF PROPER CAUTION IS EMPLOYED, should harm nothing but the insects for which they are intended.

Of the following lead arsenates, the first three are possibly the most desirable brands.

#### Qualified Recommendation

*Corona Lead Arsenate Powder* (Pittsburgh Plate Glass Co., Newark, N.J.)

*Lead Arsenate* (Latimer-Goodwin Chemical Co., Grand Junction, Colo.) The grade sold in four-pound bags for 60 cents has a spreader in it.

*Ortho Spray Lead Arsenate* (California Spray Chemical Corp., Berkeley, Calif.)

* * *

*Calcium Arsenate.* Used on vegetables but not on fruit trees, shrubs, or flowering plants. Cheaper but less efficient than lead arsenate, and *likely to burn foliage.*

*Magnesium Arsenate.* For special uses, where it is safer than calcium arsenate or Paris green, e.g., for thrip on gladiolus.

*Barium Fluosilicate.* A special-purpose poison, for beetles on asters, clematis, anemone. Extremely poisonous, and should be displaced by pyrethrum and rotenone for gen-

eral use. It is advisable to use inert spreaders or carriers. Dust when foliage is dry. May cause injury to the plant.

*Dutox* (Grasselli Chemical Co., Inc., N.Y.C.) Barium fluosilicate plus 20 per cent inert.

*Green Lead Arsenate.* Special use.

*Insectrogen* (Rose Mfg. Co., Philadelphia) Lead arsenate, soap, and water; a weak insecticide. (Analysis by Connecticut Agricultural Experiment Station.) Very expensive.

*Mechling's Oleate Coated Arsenate of Lead* (Mechling Bros. Chemical Co., Camden, N.J.) For Japanese beetle. Paste, sticks better but is not so effective as powder for general use.

*Hellebore.* Relatively inefficient, now largely displaced by pyrethrum and derris.

### Baits

Poisonous baits for ridding the house or yard of grasshoppers, snails, ants, etc., must be used with extreme care. Numerous deaths have occurred as the result of accidental ingestion of such products. Do not leave baits in places where children or domestic animals are likely to be playing. The three products listed below are considered most effective, but note that they are most dangerous to handle.

#### Qualified Recommendation

*Paris Green.* One part by weight, bran 20 parts, molasses and water to moisten. The best remedy known for cutworms, grasshoppers, and snails.

*Sodium Arsenate Ant Bait.* Sugar one pound, water one pint, sodium arsenate ⅔ ounce (125 grains). Boil (extreme care) until sodium arsenate is dissolved, add one tablespoonful of honey. Use in a number of small bottles lying on their sides, with a small piece of sponge not quite covered with syrup in each.

*Antube* (Buckeye Chemical & Specialty Co., 131 E. 23 St., N.Y.C.; distrib. for New England by N. E. Toro Co., West Newton, Mass.) Sodium arsenate syrup in a con-

venient tube. Very effective against ants. 35 cents for 145-drop tube; $1 for 500-drop tube.

### Hand Picking

For a few insects, such as the rose chafer or rose "bug," hand picking is practical. In some sections of the country, this beetle is most troublesome in the flower garden during the month of June. The insects appear in swarms and do considerable damage to the flowers of roses, grapes, peonies, etc. The pest is difficult to combat. Unless the adult insect is killed before the eggs are laid, there is no hope for freedom from the rose beetles the following year. Repeated applications of arsenate of lead (one pound to ten gallons of water) have not proved as successful as collecting the insects by hand and destroying them. Children may be helpful for this duty. A small jar half filled with kerosene may be used to drop the insects into. Fortunately the ravage of the rose bug lasts only a few weeks. They disappear as suddenly as they come.

Drives against the tent caterpillar have resulted in partially checking the great damages of this insect. Its ugly nests are often seen in apple trees, upon the leaves of which the caterpillars feed. Winter or early spring is the time to destroy the eggs of the tent caterpillar. They are laid in clusters that surround small twigs in a gray band. Bright eyes will spot them on the branches of apple and wild cherry trees. In badly infested areas, lilacs are frequently attacked. Cut (not break) off the parts of the twig including the egg cluster and see that they are burned. Since each cluster contains at least one hundred potential caterpillars, an investigation of apple tree boughs is well worth while in winter as a protection against caterpillar nests in the summer. Schools in some states and communities have taken up the problem of tent caterpillars and have offered prizes to the children collecting the greatest number of nests.

### Soil Insecticides

QUALIFIED RECOMMENDATION

*Ground Tobacco Stems* (Uniform Products Co., Inc., N.Y.C.) For root aphids.

*Lead Arsenate.* This combats grubs of Japanese and other beetles in lawns, but *caution should be used* because of its extremely poisonous nature.

*Naphthalene Flakes* (available from several chemical supply houses) Ten cents per pound. For grubs and root aphids. Scratch in one to two pounds per 100 square feet. Also corm treatment for gladiolus thrip.

*Carbon Disulphide Emulsion* (I. P. Thomas & Son, Philadelphia) Fumes poisonous. Used on lawns, may kill grass. Temporary effect on pests. COMBUSTIBLE! DANGEROUS!

*Naptoside* (Hammond Paint & Chemical Co., Beacon, N.Y.) Like *To-Na-Cide.*

*To-Na-Cide* (To-Na-Cide Co., Basking Ridge, N.J.) A mixture of naphthalene and tobacco with some sand.

## Fungicides

### *Copper Fungicides*

*(For Plant Disease)*

*Bordeaux.* This is the most powerful and generally useful fungicide but leaves a conspicuous, poisonous residue. It can be used on a greater variety of plants than can any other material. It is the only fungicide spray needed for potatoes, but *should not be used* on lettuce, celery, cauliflower, or other plants where the spray comes into contact with the part eaten. Bordeaux mixture should be made fresh for each application.

RECOMMENDED

*Quick Bordeaux,* homemade. To make three gallons of 4-4-50: ¼ pound of hydrated spray lime stirred in two gallons of water, ¼ pound pulverized copper sulphate (or "snow," which dissolves more slowly) completely dissolved in a little hot water. Add the copper solution to the lime water while stirring, then add enough water to make three gallons. Stir well, pour into sprayer, and *use at once.* Any spray left over is to be thrown away. First-quality pulverized copper sulphate (blue vitriol), a fine pale-blue powder with no dark specks, dissolves at once in cold water. As the sulphate hardens in storage, buy only one year's supply.

When using hand sprayers, it is important that the hydrated spray lime used be of the highest quality.

### Qualified Recommendation

Bordeaux powders are not as effective as homemade Bordeaux, but for the person not desiring to make his own mixture, the two following are reliable.

*Bordow* (Dow Chemical Co., Midland, Mich.)

*Corona Dry Bordeaux Mixture* (Pittsburgh Plate Glass Co., Newark, N.J.)

### *Ammoniacal Copper Carbonate*

Stainless, but not as effective for *general* use as sulphur or Bordeaux. Gives immediate control of powdery mildew even in cold weather, and is used wherever good appearance of foliage is most important.

### Recommended

*Market Garden Copper* (Universal Chemical Co., Lynn, Mass.; distrib. The Arnold Fisher Co., 557 Tremont St., Boston)

*Hammond's Copper Solution* (Hammond Paint & Chemical Co., Beacon, N. Y.) Costs twice as much as the above.

### *Sulphur*

A good fungicide for most diseases of ornamentals at temperatures above 70°F, but dangerous for the plant at high temperatures; depends on heat and fineness of division for effectiveness. Sulphur for dusting is not "flowers of sulphur," but is a specially prepared, finely ground sulphur. Flowers of sulphur sold at drugstores is of little use as a dust fungicide because of inadequate coverage by its coarse particles and its poor ability to stick. Dusting sulphur is inexpensive and should be purchased from dealers in garden supplies; it keeps indefinitely. Wettable sulphur costs a little more than dusting sulphur, but may be used either as spray or dust. The highest quality is really cheapest. It may discolor flowers; to overcome this objection, there is a form of dusting sulphur dyed green which is inconspicuous on foliage.

Does not leave poisonous residue. (See also *Contact Insecticides.*)

RECOMMENDED

*Magnetic Sulphur* (National Sulphur Co., N.Y.C.) 20 cents for one pound; 80 cents for ten pounds. Only for dusting. 99.8 per cent sulphur. Comes in two degrees of fineness; buy the finer.

*Magnetic Spray Wettable Sulphur* (National Sulphur Co.) 25 cents for one pound; $1.10 for ten pounds. 98½ per cent sulphur.

*Sulfrox* (National Sulphur Co.; distrib. Bowker Chemical Co., N.Y.C.) Same as the preceding listing.

*Dry Lime Sulphur.* For very persistent fungus, dry or powdered lime sulphur in spray is more efficient than wettable or dusting sulphur. (See *Contact Insecticides* for recommendations.)

*Kopper's Flotation Sulfur* (Kopper's Products Co., Pittsburgh) Low sulphur content. An excellent form when carefully prepared for use.

*Niagara Kolofog* (Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.) Low sulphur content. Settled quickly in spray tank, but was found to be a good sticker.

QUALIFIED RECOMMENDATION

*Lime Sulphur Solutions.* At "summer strength," burned foliage. These require experience, but are satisfactory if you know when and how much to use.

### *Soil Fungicides*

QUALIFIED RECOMMENDATION

*Hot Water.* Small flower pots of soil should be dipped into boiling water for five minutes. Large pots and flats may be fairly well sterilized when sufficient boiling water is poured over them—about one gallon for an eight-inch pot. Cover with burlap or paper to hold the heat in as long as possible. Excellent for the home gardener who has the problem of sterilizing a small amount of soil.

*Trioxymethylene Powder* (Merck & Co., Rahway, N.J.; sold by companies dealing in small-package rare chemicals, like

Eimer & Amend, N.Y.C.; Howe & French, Boston) In homemade dust, the most easily mixed, efficient soil fungicide for damping off. Mix well:

1 part trioxymethylene powder (17 cents per ounce; 29 cents for 4 ounces)

15⅔ parts screened *dry* soil, fuller's earth (technical grade), or soot

To obtain an even mixture, take first only a small part of the carrier to mix with the chemical. Then shake the mixture with the rest of the carrier and a few pebbles in a box. Store in airtight container. To use, apply two ounces of dust per square foot of seed bed, mix in upper two inches, sow seed, and water. Do not use when temperature is below 65°F. Be careful not to recontaminate the soil, through tools, etc. Allow two days between sterilizing soil and sowing seed.

*Formaldehyde Dust,* homemade.

1 part by weight of 37 per cent liquid formaldehyde

5⅔ parts inert carrier as above

Slowly sprinkle the liquid on the carrier, mixing well. Sift through window screening or shake with a few pebbles in a can. Store in airtight container. Use like trioxymethylene dust. Allow two days between sterilizing soil and sowing seed.

*Corrosive Sublimate (Bichloride of Mercury) Tablets or Powder* (chemical companies, drugstores) Dissolve in hot water. Solution used to drench the soil around a diseased plant or to sterilize surface of tubers and bulbs (but not lilies), etc. Soak tubers and bulbs 90 minutes to two hours. Corrodes brass and galvanized iron. Very poisonous; soon washed from soil.

*Calo-Chlor* (Mallinckrodt Chemical Works, N.Y.C.) The most efficient treatment for diseases of turf.

### *Seed and Bulb Fungicides*
### Qualified Recommendation

*Cuprocide* (Rohm & Haas Co., W. Washington Sq., Philadelphia) Red copper oxide; used as a disinfectant for dry

seed to prevent damping-off, when soil is too cold for formaldehyde or trioxymethylene treatment, and where large amounts of seed are sown outdoors and are apt to rot before germinating. Selective in action; sometimes dangerous to seed. Recommended particularly where soil sterilization is impracticable or undesirable. Cheap, but not generally as efficient as soil treatments with formaldehyde, etc. Never *soak* treated seed; shake in a bottle one level teaspoonful of the dust with one to five pounds of seed, depending on size.

*Zinc Oxide* ("Zinc white" at paint stores; or *Vasco,* a dustable grade manufactured by Virginia Smelting Co., West Norfolk, Va.) As a seed treatment *it is selective both* for geographical location and kind of seed. Also used to prevent spread of above-ground damping-off; apply one-half to one ounce per square foot in a smooth layer after sowing seeds.

*Calo-Chlor*

*Calogreen* (Mallinckrodt Chemical Works, N.Y.C.) Fine grade of calomel for disinfecting bulbs. Soak five minutes. A mercurial inorganic fungicide.

*Semesan* (Bayer-Semesan Co., Inc., Wilmington, Del.) A mercurial organic fungicide. Special uses. As seed treatment for certain seeds, e.g., cabbages, about equal to zinc oxide. Good corm treatment for gladiolus, but takes seven hours. As soil treatment, often injures seed when strong enough to kill the fungi. Against turf diseases, not equal of other materials. *Especially poisonous!* (See *General Warning.*)

### All-Purpose, Combination Mixtures Not Recommended

The amateur should learn what particular pests appear in his garden and what plants are susceptible to them. On account of the danger and the cost, he should abandon promiscuous, unplanned spraying-dusting in favor of the particular special treatments required. Intelligent commercial growers who must consider value received do not buy "all-

purpose" mixtures. Consumers' Research does not recommend the use of the two compounds listed below. However, they will be the cheapest and most effective as fungicide and stomach poisons. (See also *Rotenone-Pyrethrum Mixtures.*)

*Sulphur and Lead Arsenate* (home-mixed) To make 85-15 dust or spray (three tablespoonfuls per gallon), shake with a few pebbles in a box:

5⅔ parts { *Magnetic* wettable sulphur or *Sulfrox* or *Magnetic* dusting sulphur (*for dusting only*)

1 part of lead arsenate powder (*Corona,* or its equivalent)

*Bordeaux and Lead Arsenate,* homemade. To one gallon of quick Bordeaux, slowly add one tablespoonful of lead arsenate powder while stirring. Use at once.

**References**

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*Insects and Diseases of Ornamental Trees and Shrubs,* by Felt and Rankin. $5. New York: The Macmillan Co., 1932. Best authority for all but the most recent pests, such as Dutch Elm Disease.

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*Diseases and Insects of Garden Vegetables—Farmers' Bulletin 1371.* 5 cents from Superintendent of Documents. Washington: United States Department of Agriculture.

*Subsistence Farm Gardens—Farmers' Bulletin 1746.* 5 cents from Superintendent of Documents. Washington: United States Department of Agriculture.

*Insecticides, Equipment, and Methods for Controlling Orchard Insect Pests—Farmers' Bulletin 1666.* 25 cents from Superintendent of Documents. Washington: United States Department of Agriculture.

*The Lawn,* by L. S. Dickinson. New York: Orange Judd Publishing Co.

### *Panama Hats*

A cheap straw "panama" made in a tropical country will probably outwear several paper hats. To be genuine, a panama hat must be made from the leaves of certain Central and South American plants (paja toquilla and Jipajapa). Imitation, silk-paper "panamas" may usually be distinguished by the following characteristics: (1) coarse finish on inside, (2) strands (one may be taken from underneath leather band) which "unroll," revealing tissue-paper construction, (3) crown and brim *sewed* together. Genuine panamas usually have no loose strands, inside or out, and in any case the strands cannot be unrolled; the hats are woven in one piece.

Beware of the slick-looking salesman, chosen for his Spanish profile, offering "bargain panamas." An imitation will survive a "demonstration" which would wreck a genuine panama—but will not last nearly as long in actual use.

From Consumers' Research *Bulletin,* September, 1936

# Tests of Lawn Mowers

It seems practically impossible to buy most consumers' goods without gadgets. There are some commodities, however, particularly those whose fundamental design was pretty well standardized long before the days of modern advertising and high-pressure salesmanship, in which gadgets are rather limited or are applied only to overpriced models for consumers who can be counted on to bite if they're offered a few fine-sounding extras for bait at sufficient increase in price.

Lawn mowers seem to fall into this category. You can buy good, sturdy, old-fashioned ones, which cut the grass neatly and easily, at reasonable prices. But if you *must* pay more for "the best," you can get 'em equipped with "[*Blank*] Roller Bearings—the kind used in the most expensive automobiles and the biggest transport airplanes." It just happens, as the advertiser does not tell you, that on lawn mowers, roller bearings offer advantages over ball bearings which, if they exist at all, are safely adjudged to be absolutely negligible. For the purpose of selecting bearings, hand-power lawn mowers, as any engineer can tell you, resemble automobiles and transport airplanes a great deal less than they do farm wagons or garden cultivators. Now, thanks to the influence of the advertising experts of the automobile industry, you can even have a lawn mower equipped with a "One Shot Oiler" which enables you to oil all the bearings at a single push of the foot—truly the apex of lawn mower achievement!

Consumers interested in getting their money's worth in

From Consumers' Research *Bulletins*, June, 1935, and September, 1936

lawn mowers, however, have quite a few indications to go by. Durability, ease of operation, and ability to cut the grass evenly without leaving it ragged in appearance are judged to be the chief values on the basis of which lawn mowers should be purchased. Durability, of course, cannot be determined without operation over a fairly long time; nevertheless, one can form some judgment by comparison of the machines, noticing general ruggedness of construction and various methods of cheapening or points of evidently poor or inadequate or skimped design. Notice the handle: how permanently and securely the part you take hold of is fastened to the shaft, and that, in turn, to the machine. The cutting blades are fastened to their shaft by "spiders" (sets of spokes, usually curved): how many "spiders" have the several machines you are investigating? How well are the blades riveted to them? Are all the "spiders" fastened to the shaft, or just the two at the ends? Have a look at the gear wheels—you have to take the drive wheels off to see them, of course. Are the faces of the gear wheels three-fourths of an inch wide, or only half an inch? The wider they are, the longer you can expect them to wear. Is the base knife—the bar at the bottom, against which the revolving blades cut the grass—so thin that it may be bent if you strike a stone in the lawn?

Examination of such points as these and comparison of different brands on the basis of them will provide at least indications of quality of workmanship and of the interest the manufacturer has taken in building a machine of the quality which can be expected to make it long-lived. It's surprising on what trifling things the manufacturer will choose to do his skimping, and how little he may save on any given point which may have shortened the useful life of his machine by half or more. Other points to observe will occur to you as you look over the mowers. Better yet, before you start shopping, examine your machine or your neighbor's, preferably an old one which has seen hard use; take it apart, and find out first hand the principal points of wear and deterioration.

Ease of operation of a mower can be determined only by actually trying it out—*on the lawn.* It depends, of course, partly on its width—on how wide a swath it mows; but also on its construction—use of good ball bearings, for instance; and especially on the sharpness of the blades. Consider, in selecting a mower, who is going to use it and on what type of lawn. A strong man won't care much how hard it pushes, perhaps, and will want one as wide as possible within reason, not minding the extra work it takes to push a wide machine. A boy, on the other hand, may be able to mow a lawn faster and better with a narrow, easy running mower—fourteen-inch, for instance—in spite of the extra steps it takes. Also, on a small lawn, one largely broken up by flower beds, etc., or one with steep slopes, a narrow, light machine may be preferable, even for an adult user.

How evenly the mower will cut depends on such things as the "gear ratio" and the number of blades. In the last analysis, however, it is largely a matter of how far the mower moves ahead at each stroke of the blades, a thing which can be determined in the store as follows: place the machine beside a yardstick, run it ahead slowly, and notice how far it moves forward from the point where one of the cutting blades first touches the base knife to the point where the next blade first touches the base knife. A more accurate measurement can be made by noting the distance the mower moves forward during ten such successive contacts of the blades with the knife, and dividing this distance by ten. This "amount of grass cut," or, better, distance traveled, per blade-stroke, should hardly be more than an inch and a half for smooth mowing on ordinary lawns, on which the grass is left an inch high by the mower. If the grass is thick, or if it is more closely cut, the distance cut per blade-stroke may need to be as little as an inch or less if the lawn is to be left smooth and even, and the mower is to run easily.

In buying a mower, do not be impressed by claims that it is "self-sharpening." All lawn mowers of the ordinary type

are self-sharpening to some extent—it is inherent in their construction—but all of them need occasional resharpening, the frequency depending on the quality of the steel in the blades, method of tempering, etc. Neither should you be overwhelmed by claims that a mower is "ball bearing." All but one of the ten medium-priced mowers tested for Consumers' Research had ball (or roller) bearings supporting the shaft that carries the revolving blades; only the *Eclipse,* however, was judged to have sufficient balls in the bearing to make it properly long-lived. (Lawn mowers are one of the outlets for manufacturers of third- and fourth-rate ball bearings.) Had the manufacturers of the other mowers been interested in providing adequate bearings rather than the right to claim "ball bearings!" in their ads, they could have done so at very slight extra cost.

Whether you buy from a mail-order house or a local merchant, ask for a written list of repair parts and prices. (Three of the ten mowers tested were accompanied by such lists, and two others had lists of parts without prices.) It is well to obtain a written statement from the seller guaranteeing the availability of repair parts at stated prices for five or ten years from time of purchase. Above all, insist on such a guarantee on mowers sold under the name of a local jobber (or of a mail-order house) and not bearing the manufacturer's name and address. Such jobbers frequently change manufacturers, with the result that they become unable to supply parts for mowers previously sold. And, worse yet, they don't usually care very much, feeling, perhaps, that you ought to be in the market for a new mower anyway by that time.

*Care of a lawn mower.* Main items of care of a mower are oiling, resharpening of the blades, and occasional cleaning out of the grass and dirt accumulated in the gears and other parts. The bearings of the cutting blades' shaft and the drive wheels should be oiled each time the mower is used. If you have trouble with grass getting caught in the gears and becoming imbedded in them, it may be just as well not to oil

the gears, since oiling will do little good, and the collecting and jamming of the fibers, which it favors, may actually make the mower run harder. In some mowers, the bearings of the shaft carrying the revolving blades are not oiled, but packed with grease once a season. Unless the cutting blades are kept sharp, they will mow raggedly and the mower will run hard. While the best sharpening is probably done by a skilled sharpener who has a machine for the purpose, it can be done at home by a person of some mechanical ability.[1]

Of ten brands tested, we recommend those which follow. These recommendations are based on accelerated wear-tests made for Consumers' Research, which were estimated to be equivalent to six years of use on the average lawn. They take account of ease and satisfactoriness of operation, and relative length of life as estimated from ruggedness of construction and the relative wear of the parts. Prices given are those paid for sixteen-inch machines, the size tested.

### Recommended

*Legion* (Reading Hardware Co., Reading, Pa.) $8.50. Produced smoothest cut of any machine tested. Tests indicated probability of long life.

*Vassar* 5-Blade (Coldwell Lawn Mower Works, Newburgh, N.Y.) $9.60. Rated second among the machines tested in ability to retain sharpness. Tests indicated probability of long life.

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[1]To sharpen the blades at home, first remove the drive wheels, thus exposing the two pinion gears. (These gears, one on each end of the cutting-reel shaft, are turned by the drive wheels and, when the machine is pushed forward, catch on pawls on the cutting-reel shaft so that it is made to rotate. When the machine is backed up, the internal ratchet teeth of these gears slide over the pawls so that the cutting-reel is not turned.) Remove these gears and interchange them, putting the *left*-hand one back on the *right*-hand end of the shaft and vice versa, at the same time turning the pawls around if necessary in your mower, so that when you have replaced the drive wheels the cutting-reel turns when the machine is backed up but not when it is run forward. Now adjust the base knife until there is considerable pressure between it and the revolving blades, spread along it a layer of automobile valve-grinding compound, turn the mower upside down, and push it. This should cause the cutting blades to revolve backwards and be ground against the base knife; grind them down until the cutting edges meet uniformly. Then wipe off *all* the valve-grinding compound (taking care that none gets into gears and bearings!) and readjust the base knife sufficiently close to the cutting blades so that they will just shear a sheet of thin paper laid across it when they are rotated forward by hand. When the job is correctly done, the sheet of paper can be sheared in any part of the length of the base knife and with any part of any one of the revolving blades.

*Take care* in following the various steps of this procedure to avoid being cut by unexpected movements of the revolving blades.

QUALIFIED RECOMMENDATION

*Defiance,* Model No. 642 (Distrib. Sears, Roebuck & Co.) $5.85 plus freight. Comparative value good considering price. Tests indicated probability of long life. Model No. 8212, at $5.85 plus freight, in latest 1937 catalog, appears to be the same as the model tested.

*Lakeside,* Model No. 5555 (Distrib. Montgomery Ward & Co.) $5.75 ($5.25 plus freight, in latest 1937 catalog).

*Eclipse,* Model M (Eclipse Machine Co., Prophetstown, Ill.) $13.50. Had special device to facilitate sharpening at home. Tests indicated probability of long life.

***Organized Labor* versus *Consumers***

In the latter part of 1934, the American Federation of Labor joined with the premium manufacturers in a campaign to increase the use of premiums by forcing the anti-premium provisions out of the NRA codes. Frank Waggoner, editor of *Premium Practice,* was in charge of the campaign. It was said that $55,000,000 of the premium industry's annual income of $200,000,000 goes to workers most of whom are affiliated with the American Federation of Labor. Such a coalition between labor and the manufacturers of premiums is a definite alliance against consumers. The very nature of organized labor and its objectives presupposes this kind of anti-consumer position. Organized labor, like organized business, is concerned primarily, if not exclusively, with the sale of a commodity. Organized labor's commodity is its labor power, and there has never been any more of an indication that the interests of consumers are considered in its sale than they are in the sale of patent medicines or factory-made pies.

—J. B. Matthews in *Guinea Pigs No More*

*By Howard Vincent O'Brien*

WITH scorn and indignation most Americans reject the idea of a lottery. Such iniquitous devices may be all right for backward peoples, they argue; but for an enlightened country like ours it would never do. Call it any high-sounding name you will, they say: it remains nothing but gambling.

Well, all right. But if the present craze for prize contests isn't rooted in gambling I don't know where its roots are. The plain fact is that, when the makers of the Lady Diana Woven Wire Face Cloth offer $10,000 and a trip to Europe to the person who contributes the best last line to a limerick, it is conducting a lottery and nothing else.

Oh, yes, lotteries are forbidden by law, while prize contests enjoy the blessing of the post-office. But the prize contest is a lottery, nonetheless. Instead of buying a ticket, as is done in more primitive countries, you get a label or a couple of boxtops to go with your entry. Your last line or puzzle solution will be one of perhaps a million. It will be carefully read —the law is always observed; and out of several carloads of entries yours may be one of the hundred or so which go to the final judges.

The difference between the best and the worst of the answers being negligible, one person's chance of winning is precisely as good as any other person's chances. Ergo, as the

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philosophers say, the prize contest, with rare and unimportant exceptions, is a lottery.

### Suckers

A foreigner, listening to our radio programs, would conclude that not only are we a people given to sticking our heads in the sand and scorning lotteries while we go enthusiastically for prize contests but we are also the most gullible race on which the sun shines.

Vast sums are expended on radio programs, and it is obvious that they would not be spent if they did not pay. The people listen to the seductive nonsense of the radio announcers and buy the potions and lotions they talk about.

I would estimate that at least half the advertising on the air is devoted to cures of ailments and methods of making a woman beautiful. The great American sucker spends millions, apparently, on the relief of heartburn alone. With the fervor of a martyr he empties his pockets to make his stomach acid, while his wife goes hungry that she may have a skin he loves to touch.

The credulity of the American is sublime. Without reservation, he believes that all good comes out of bottles or from a package with a plain sealed wrapper. The drugstore is the mecca to which he makes his pilgrimages, and its shelves are his altars.

### In the Name of Science

The drollest thing about modern fakery is that it is all done in the name of science. Anything can be sold if it can claim that it has vitamin B in it. Any day now some enterprising manufacturer will market irradiated shoes, with advertisements showing men in white coats and Van Dyke beards, peering into microscopes, while the caption underneath proclaims: "Scientific Tests Show . . ."

All this would be comic were it not for the wastage of scientists and the twisted idea of science that the public gets from the advertisement writers. A distinguished scientist told me the other day that his greatest problem was keeping the

assistants who showed promise. "As fast as they show their skill in research," he said, "some maker of face cream hires them away at salaries we cannot hope to match. Many is the able young scholar I have seen turned into a factory hand."

**Job for Education**

Well, what are we going to do about it? We are, of course, going to do nothing. There will be a few feeble efforts toward more rigorous food-and-drug acts, bitterly (and successfully) contested, and moralists will bemoan their inability to save people from themselves. But the people will go right on getting what they want, and if what they want is a paste that will remove freckles, wrinkles and fat the demand will be met. If they crave pills to end their aches the pills will be forthcoming. Not until education gets the fact across that pains and pimples are the outward signs of inward error will the dulcet exhortations of the radio announcers fall on deaf ears.

Meanwhile this is a paradise for those who live by catching suckers. Shrewd in so many ways, the American is a glutton for hooey when it comes to anything that concerns his health or his appearance. Whether the female of the species is more foolish than the male I will not venture to say. I suspect not; for, if she falls for miraculous face creams, she falls no harder than her consort does for wonder-working cigarettes.

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***Ballyhoo in Reverse***

The buying public having had its fill of advertising ballyhoo is probably well prepared for the latest technique of the copy writers which is to put their stuff in reverse.

The Congress Cigar Company, makers of *La Palina,* is now featuring in its advertising the results of the researches of "Professor Thaddeus G. Tipple" and his "pscientific pstaff" who are undertaking "to outclaim any claim that has ever been claimed" for cigars.

"Professor Tipple" and his "pscientific pstaff" will prove beyond any possibility of quibble that *La Palina* cigars will not cure baldness, glass eyes, hangnails, or termites.

# THE MILLER-TYDINGS BILL*

*By Percy S. Straus*

I HAVE your letter of the 13th inst., in which you take exception to the statement in my annual report to the stockholders of Macy's that "the Miller-Tydings bill now before Congress would remove from the operation of the Federal laws against monopoly and price fixing goods covered by price-fixing agreements made under such state laws."

You ask, "Why, then, does a company of the size and ability of yours continue to tell the public that these laws would remove trademarked goods from 'the operation of the Federal laws against monopoly'?"

My answer is that the Miller-Tydings bill, by its expressed terms, is designed to do just that. It is entitled "a bill to amend the act entitled 'An act to protect trade and commerce against unlawful restraints and monopolies,'" approved July 2, 1890.

The anti-trust statute thus sought to be amended provides that "every contract, combination in the form of trust, or otherwise, or conspiracies in restraint of trade or commerce among the various states, or with foreign nations, is hereby declared to be illegal."

* * *

The Miller-Tydings bill would enact a proviso to the foregoing whereby goods bearing a trademark or brand would be exempt from the existing statutes against monopolies if agreements relating thereto are lawful, as applied to intrastate transactions under the law of any state. Such resale price-fixing agreements are clearly invalid as to goods in interstate commerce under existing Federal statutes and the decisions of the Supreme Court.

The recent decision of the Supreme Court on the Cali-

* An open letter to W. J. Schieffelin, Jr., published in the New York *Herald Tribune*, April 21, 1937. Reprinted in *Consumers' Digest* by permission of Percy S. Straus, President R. H. Macy & Co., Inc.

fornia and Illinois fair-trade acts related only to the constitutionality of state statutes and had no reference whatsoever to the illegality of price-fixing agreements with respect to interstate commerce. These decisions gave no immunity from the penalties of the Federal statutes, including the Sherman anti-trust law.

Hence, manufacturers, fearful of those penalties, caused the Miller-Tydings bill to be introduced. Otherwise, there would be no need for any such amendment to the anti-trust laws. I therefore am unable to see how you can question the accuracy of my statement that the bill is designed to "remove from the operation of the Federal laws against monopoly and price fixing goods covered by price-fixing agreements made under such state laws."

Monopoly is the absence of competition. In the Trenton Potteries case, the Supreme Court held "the aim and result of every price-fixing agreement, if effective, is the elimination of one form of competition. The power to fix prices, whether reasonably exercised or not, involves power to control the market and to fix arbitrary and unreasonable prices."

* * *

When you refer to "fair and open competition" you fail to recognize that there are at least two kinds of competition —namely, competition among producers and competition among distributors. Since one-half or more of the final retail price of drug products represents marketing cost, it is obvious that destruction of competition in marketing by price fixing is just as monopolistic in character as agreement among manufacturers to sell identical products at identical prices. Moreover, advertisers organized on a national scale may create a practical monopoly in an article not possible for smaller manufacturers making a similar article of equal or superior merit.

I agree that the manufacturer who succeeds in convincing the public is entitled to the benefit of his expenditure; but I deny that after the manufacturer has received his price from

the retailer, which includes (by way of higher price than the same merchandise unbranded) a payment for any goodwill in the trademark as to the goods so purchased, he should be permitted to fix the retail price and thus destroy all competition among distributors.

When you are willing to assume all the capital investment and financial risks of a distributor, you might possibly fix retail prices. It is the well considered point of view of all impartial authorities that you should not be granted the prerogatives of distributors, and control over other distributors, without assumption of true distributive risks. There can be no "fair and open competition" in any true sense unless retailers are permitted freedom in fixing their own selling prices, and unless there is competition based on the differentials inherent in every business, with respect to each merchant's cost of distribution.

Neither am I unmindful of the long established "community of interest" of the various producing and distributing branches of your trade.

I have before me a consent decree of the United States Circuit Court of Indiana No. 10,593 in United States v. The National Association of Retail Druggists et al. The decree enjoins a long list of individuals in your trade from engaging in price fixing and other monopolistic activities. Among these names appears that of William J. Schieffelin, presumably of your firm. Only a casual acquaintance with the activities of various groups in the drug trade, since this decree, is necessary for some apprehension as to the monopolistic possibilities of the so-called "fair trade" laws and the pending Miller-Tydings bill.

As you indicate in your letter, we are indeed fortunate in having many private brands. Our business in these brands is showing a phenomenal increase, since comparable or identical items have been price-fixed. Other retailers may not be so fortunate, and we cannot manufacture on short notice all the items we need. If the members of your trade were cog-

nizant of the nature of retail costs they would understand that no fixed-price policy is really intelligent if maximum sales are desired.

* * *

Meanwhile, the public will be forced to pay high prices until proper substitutes become available. For many products, they will be forced to pay monopolistic prices, until branded dominance is explained and exposed.

The Supreme Court has, of course, only ruled on the constitutionality of two state statutes. The determination of economic merit is a legislative function. Experience will determine whether the public is willing to live under a law whereby the manufacturer can fix the price to the consumer and destroy all retail competition in an article merely because a name or brand is affixed thereto. Probably the consumer himself will want to have something to say about fixing the price. He may want to know how much the price represents actual cost, how much advertising, how much profit.

If you want to fix prices, don't you think it would be fair to have some public body representing the consumers investigate to determine whether your goods are really in "fair and open competition," whether the price fixed by you is fair, based on costs and the inherent value of the products sold? I am confident that now, as always, ultimately the consumer will decide.

***Illustrating the Necessity of Testing***

A recent delivery on a Government order for 15,000 pounds of white lead for use as paint was found to contain no lead at all, and another delivery on an order for 5,000 pounds of zinc oxide contained no zinc oxide. Such cases illustrate the necessity of testing. No matter how excellent the purchase specification may be, it is fruitless without adequate tests to prove that the delivered material meets its requirements.

—Lyman J. Briggs in *Journal* of The Franklin Institute

# HOW TO TEST BUTTER & OLEOMARGARINE

OLD, rancid butter, the most unwholesome and disreputable sorts, is often reworked and offered for sale as new, fresh butter. "Renovation" is accomplished by melting, drawing off the curd which sinks to the bottom, aërating the mess, and rechurning it with fresh milk or cream.

To distinguish genuine fresh butter from renovated butter or from oleomargarine, melt a lump of butter the size of a walnut in a large spoon by heating it directly over a low flame. Fresh butter will melt quickly and quietly, with the formation of many small bubbles throughout the mass as the water is driven off, and will produce much foam. Oleomargarine or process (renovated) butter will sputter and crackle, as hot fat containing water does when heated on the stove, and will produce but little foam.

Another way to distinguish genuine fresh butter from renovated butter or from oleomargarine is to melt butter in a glass tumbler or a test tube immersed in water at 50 degrees Centigrade (122 degrees Fahrenheit). The curd from butter will settle, leaving a clear fat floating above it. If this fat is turbid or cloudy, renovated butter is indicated. Oleomargarine, when melted, usually shows little or no curd.

The so-called "milk test" will also serve to distinguish genuine butter from renovated butter and oleomargarine. To make this test, place about 50 cc of milk in a *Pyrex* beaker, or glass tumbler (one with thin walls is essential to avoid risk of breakage due to the change of temperature),

From the new Consumers' Research *Test Manual*

and set this in a vessel of hot water which is then brought to the boiling point. When the milk is hot, add a teaspoonful of butter and stir until the fat is melted. Then place the beaker or glass and its contents in a pan of ice water and continue the stirring. Genuine butter, either fresh or renovated, will solidify in a somewhat granular condition and be distributed through the milk in granular particles. If the sample is oleomargarine, it solidifies practically as a single lump so that it can be removed from the milk with the stirrer. Renovated butter can be identified because it tends to collect as a film on the surface of the milk, if the milk, instead of being stirred, is allowed to stand without stirring.

**Test for Quantity of Water in Butter**

Butter purchased by the federal government according to specification C-B-801 must contain not more than 16 per cent of water. This is also a legal limit which has been established by a few state governments. On the open market, however, butter has been found to contain as much as 27 per cent of water, and the creamery operator, of course, often tries to get as much water into his butter as possible without running too much risk of getting into trouble with the authorities.

To test for the quantity of water in butter, weigh on a sensitive balance a dry, flat-bottomed aluminum dish having a surface of at least 20 square centimeters. Then place in the dish about two grams of butter and weigh again. Place the dish and its contents in an oven heated to 100 to 105 degrees Centigrade, and heat for about six hours. One way to secure an oven with an air temperature of about 103 to 104 degrees Centigrade is to use the upper part of a double boiler covered with a lid. In the lower part of the double boiler is boiled steadily a saturated solution of common salt ($NaCl$) (i.e., water containing all the salt it will dissolve). Weigh the dish of butter again, and repeat the weighing at hourly intervals until the weight becomes constant. The per cent of water contained in the butter is calculated by

dividing the loss in weight from the previous weighing of dish and original sample by the original weight of the sample and multiplying by 100. Thus, if the original sample weighed 2 grams, and the loss of weight after heating was 0.4 gram, the moisture content was

$$\frac{0.4}{2.0} \times 100 = 20\%$$

### Coloring Matter in Butter

Butter is one of the few foods which may be artificially colored without the presence of the dye being indicated on the label. It is relatively easy to test butter for foreign coloring matter. Add about 8 grams (2 teaspoonfuls) of butter to a mixture of 4 cc (1 teaspoonful) of carbon disulphide ($CS_2$) [*Inflammable!*] and 30 cc (1 ounce; 2 tablespoonfuls) of denatured alcohol (190 proof; *not* rubbing alcohol which is usually 140 proof). Shake well and allow the mixture to stand until two distinct layers separate. If the upper layer (the alcoholic solution) is colored, artificial coloring matter was present.

### Tests for Individual Dyes

Carefully pour off as much as possible of the upper (alcoholic) layer. Using an eyedropper or pipette may be easier; if a separatory funnel is available, it should be used. Divide this into five parts of about 5 cc (1 teaspoonful) each:

(1) To one part, add dilute hydrochloric acid (HCl) drop by drop until the point is reached at which blue litmus is turned red. (Do not leave the litmus in the solution.) Add about 50 cc (not quite ¼ cup) of water and a piece of clean white wool yarn about 2.5 cm (1 inch) long. (If yarn is not available, use any piece of all-wool white cloth.) Boil for several minutes, remove the wool and rinse. If it is colored, coal-tar dyes were present.

(2) Saturate a piece of filter paper (about 1 x ½ inch) with the solution, allow to dry, place in a weak solution of boric acid ($H_3BO_3$, same as boracic acid), allow to dry in a

warm place; a cherry red color indicates the dye, turmeric. Another test is to add a few drops of ammonium hydroxide ($NH_4OH$, same as ammonia water); a brown color indicates turmeric.

(3) Add a few drops of nitric acid ($HNO_3$) [*Caustic!* Dangerous to handle!] to one portion; a green color indicates the dye, saffron. Add a few drops of hydrochloric acid ($HCl$) [*Caustic!*] to another sample. If the dye present is saffron, a red color will develop.

(4) Evaporate a portion to dryness on a water bath (heating without water in the top of a double boiler of which the lower part contains boiling water will be satisfactory). [Remember that alcohol is inflammable!] Allow to cool and add a drop of concentrated sulphuric acid ($H_2SO_4$) [*Caustic!*] to the residue. A greenish-blue (not pink, which indicates certain coal-tar dyes) color will develop if the dye, annatto, is present.

***"Butter" Which Is Not Butter***

An official of the U. S. Treasury Department writes in an official letter: "Process or renovated butter is defined by law to mean butter which has been subjected to any process by which it is melted, clarified, or refined and made to resemble genuine butter. It is principally used by bakeries." Needless to say, such butter is not butter at all in any proper sense; it is in proper terms the chemical end-product of a debased trade which uses spoiled butter as one of its raw materials.

Lest anyone doubt the practical importance in the trade of this type of butter, one may cite an advertisement of the Blue Valley Creamery Co. in the *Bakers Weekly* that referred to bakers who were "reluctant to use the so-called 'baker's butter'—the reconstituted, near-rancid, distress products that clutter up the market."

—F. J. Schlink in *Eat, Drink and Be Wary*

A Review of Dr. Arthur J. Cramp's

*Nostrums and Quackery and Pseudo-Medicine, Vol. III*

*By*

**William F. Skinner, M.D.**

ARE YOU one of those unfortunate people who believed that ad claiming a "new cure" for diabetes? Or perhaps you tried that "tonic" your well-meaning but misguided friend told you about, in the hope that it would restore your "youthful vitality"? Or, being a sufferer from hay fever, did you decide to try the drug compound alleged to be the discovery of a "Chicago Specialist"? If you are among those who still have left a degree of faith in "patent medicine" ads and are still willing to entrust your health and even your life to quacks, then you should by all means read *Nostrums and Quackery and Pseudo-Medicine,* Vol. III, by Arthur J. Cramp, M.D., published by the American Medical Association. As a matter of fact, every person, even radio broadcasting officials and publishers of our papers and magazines, should read this book. No one is better qualified to assemble the data contained in this volume concerning fakers and their quack remedies than Dr. Cramp, who developed the Bureau of Investigation of the American Medical Association and became its director and who has been connected with it for the past thirty years.

In this book, as he had done in his earlier volumes, Dr. Cramp does not present debatable evidence concerning the various so-called *patent* medicines, but lists the ingredients in the preparations, ascertained from tests made by the American Medical Association's staff of chemists, and in the numerous cases where governmental action was taken against the product on account of fraudulent claims of curative

value, Dr. Cramp cites the record of proceedings under the Food and Drugs Act. On reading this book—and a more entertaining one could hardly be found on any library shelf, aside from its depressing and even tragic exposition of the gullibility of human beings—the intelligent reader naturally asks himself by what means fakers are able to so dupe the public, and why it is that seventy-five per cent of the cost of many a totally worthless concoction goes, not into the ingredients of the formula itself, but into advertising and merchandising the trade name. The answer to the first question is that the unenlightened public is intrigued by mystery and secrecy, and these are the very foundations of the "pills" business. And millions of people, it appears, are willing to believe that some wholly unknown quack chemist or physician without a scientific reputation in any field is likely all of a sudden to discover an efficacious remedy for chronic constipation, diabetes, arthritis, dandruff, or acne. Moreover, "patent medicines" are not patented at all, for if they were, the names and quantities of the ingredients and the methods of combining them would become a matter of public record, obtainable at any time from the Commissioner of Patents—and the loss of secrecy, it need hardly be said, would not improve the profit-making possibilities of the patent medicine business. The answer to the second question is apparent from even a casual reading of the book, almost any page of which will reveal such startling facts as these: a "new guaranteed remedy for scarlet fever or smallpox," selling for $15 a short pint, was found by the American Medical Association chemists to consist of nothing but ordinary cream of tartar dissolved in water—less than one-half cent's worth. "A Blessing to Diabetics. Very Latest Discovery. Absolutely No Dieting." When the stuff was analyzed in the chemical laboratory of the American Medical Association, it was found to consist of Epsom salt, and patients were sold less than twenty-five cents' worth under a fancy name and charged $5 for it. And so on through the 222 pages of the

book, the chapters of which are arranged according to the types of diseases for which "treatments" and "cures" are claimed. The chapters on mechanical nostrums and testimonials are especially worth noting. The former includes a description of a device which, by means of a drop of blood or only the autograph of a patient, enabled the inventor to tell whether the person was a Catholic, a Methodist, a Seventh Day Adventist, a Theosophist, a Protestant, or a Jew! Incidentally, the number of unbelievably gullible people in the world may be roughly judged by the fact that the inventor of this device left an estate of about $2,000,000 on his death in 1924.

Every physician and druggist knows that "patent medicines" are unnecessary. They know, too, that the danger in the use of "patent medicines" lies in the fact that through self-medication many persons are kept from proper diagnosis and the treatment which might prolong their life. The patent medicine which is advertised to cure headaches is as dangerous a remedy as that which is resorted to in the hope of arresting the growth of a cancer, and the makers of both products are equally guilty of misrepresentation and fraud; the sole difference lies in the fact that in the case of the headache sufferer, nature's healing power will probably get in its good work anyway and he will recover, whereas the victim of the cancer "remedy" will be deterred from obtaining proper treatment in the early stages of the disease when a cure *is* possible (though certainly not by "patent medicines"). Dr. Cramp cites a case where one faker advertised that he had "cured" five people of cancer. On investigation, it was found that all of the five patients had died of the disease. Surely thousands of people have died needlessly because they used "cancer cures," and surely thousands more will do so until it becomes illegal for anyone to make, advertise, and sell such quackeries, however ignorantly or sincerely he may believe in the efficacy of his appliances, pills, unguents, or potions.

The reader will be surprised to learn that laxatives are not a cure, that they are often dangerous, that they are habit-forming, and that they are not "g-e-n-t-l-e." His blood will nearly boil when he reads that some mud baths contain lye, some hair tonics, carbolic acid and arsenic, and that a cancer "cure" was found to consist chiefly of baking soda.

Dr. Cramp concludes the introduction to his book by stating that he looks forward hopefully to a time when effective legislation will be enacted that will "make it just as legally dangerous to falsify in any medical advertising as it is, under the present law, to make false or fraudulent statements on or in the trade package. Speed that time!"

## *The "What Else" Technique of Selling*

"I GO BY a place and a sign says, rubber heels put on for 25 cents while you wait, but when I go in to get them, the first thing the man does is to try to sell me a pair of rubber heels for 35 cents, better grade, last longer, etc. Now this makes me mad. I went in because I wanted the 25-cent pair, and he should not talk down the thing he asked me to buy with the sign in his window. I often have been quite rude.

"My second complaint is about something even worse, and I ask you now whether I am right or wrong. I go to buy something, I know what I want, I want that one thing and nothing else; or, if I want anything else, I'll say so, not being deaf and dumb. But does the salesman or proprietor take my intelligence for granted? He does not. Again and again, and I'm tired of it, he says, 'Anything else?' And often enough he makes it even worse by asking, '*What* else?' I get mad and again am often rude, though back in my mind, to be fair, I think I mean to be constructive. Recently I bought a book for a friend. Did the proprietor let it go at that? No; he asked, 'What else?' I said you can wrap it up and I am afraid I was testy about it, for I am fed up on this 'what else' story."

—*Baldwin's Business Brevities*

# GULLIBLE'S TRAVELS

June 24, 1937

Snocum,
Coconut Grove,
Pacificania.

Dear Snocum:

One of the things I like most about Americans is that they are always "on their toes." Unlike our people in Coconut Grove, who spend so much of their lives in other postures, Americans are a hustling nation forever trying to shorten the time to the finishing tape. That is why they say they are "on their toes."

Perhaps no better monument to the American people could embody its spirit, for posterity to admire, than a bronze statue of two Americans selling each other something. If only I were a sculptor, I myself would undertake to preserve for coming generations some carved symbol of this indomitable American spirit of salesmanship. Long ago, salesmanship supplanted statesmanship and soldiery as the realm of achievement where Americans dream of conquering. Where the great Macedonian general attained the pinnacle of success and fretted because there were no more worlds to conquer, the modern American genius will view a fully be-gartered world of men and weep bitter tears because there are no more customers for Ginsburg's Sock Supporters.

You simply cannot resist an American who is in the mood to sell. When his lips have been touched with a live coal from the altar of salesmanship, i.e., when he has taken a course in salesmanship in Go-Gettem's night school or read carefully every word in the College Boys' Manual for Selling Knock-Your-Eye-Out Stockings, he moves irresistibly in a world of buyers. If, by some obstinacy, you could repel him, you would be guilty of a wanton dissipation of the creative energy of salesmanship.

# GULLIBLE'S TRAVELS

AT THE SALESMEN'S CIRCUS

Thousands of books and manuals, other thousands of schools, and countless teachers are all dedicated to instructing Americans how to sell things to each other. Somewhere I have read that selling things has become more important, and hence more evocative of a thousand skills, than the business of making things. Many men spend their lives in the arduous work of constructing "selling sentences" which are first tested, and then, when shown to have the proper pulling power, published in large volumes. The art of salesmanship involves not only the use of correct selling sentences but also the precisely correct intonation of voice when speaking the sentences, and other such vital matters as when to remove the hat, which side of the door to stand at when waiting for a response to ringing the bell, and the gait with which the salesman should approach the house.

It was quite by accident that I discovered salesmanship to be a highly developed art in this country. Of course I knew that somehow or other I bought anything that a salesman offered me, but I little dreamed of the wonderful training which lay behind his technique of presentation. One day Impervious brought in copies of some selling manuals which he called "bibles of woosoppy." When he had finished with his scoffing, I began to read them and soon my eyes were opened to the immense importance of this business of selling. The more I have learned about it, the more profound has my appreciation of it grown.

Here are some examples of the art of salesmanship for college boys who spend their summer vacations selling "Knock-Your-Eye-Out" hosiery:

"He walks briskly to the door, rings or knocks smartly, standing on side of door away from hinges. When lady comes to the door he steps back, removes his hat, smiles and says, 'How do you do?' He reaches in pocket, pulls out one advance card, steps forward positively holding out card toward her (actually placing card in her hand) and says, 'Just take this card.' "

"It is tremendously important in salesmanship to be enthusiastic, to be active. Walk with

enthusiasm and briskly from the sidewalk to the front porch. . . ."

Having presented the "advance card" to his prospective customer, the salesman calls the next day to bring a Mending Kit which the card promised. He demonstrates the Mending Kit. This done, the Manual directs the salesman as follows: "Then put the needle back in place, close up the kit and start to hand it to her. Then say, 'This is a bit soiled. I'll get you a fresh one out of my sample case.' . . . That kit, of course, goes back into your pocket and you have entree to the sample case as a result of saying you will get a fresh one out of your case. You will not be long in getting into the case and getting out the presentation book. You take out your order book at the same time."

In demonstrating his hosiery, the salesman is directed by the Manual in the following manner: "At this point, ask Mrs. Jones where she generally has the greatest trouble with her stockings. In the majority of cases this will be in the foot; at this point you will start your demonstration. However, should she mention another place, you will naturally start there."

I have given you these few examples of the great art of salesmanship, dear Snocum, so that you may be able to add to your appreciation of the cleverness of Americans. There are many other things which I could tell you about this unequalled system, but they must wait.

As you will no doubt guess, Impervious treats a salesman just like any other human being. Once this had disastrous consequences when Impervious said "No!" to a salesman. The poor fellow must have had a weak heart, for he slumped to the floor in a state of complete collapse and we had to call an ambulance to take him to a hospital.

Cordially yours,

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*SAVES*
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**Vol. 2 . . No.**


COSMETICS
WHAT THEY ARE
AND HOW TO
MAKE THEM

25c

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¶ *Consumers' Digest* presents only *Recommended* products in its listings. The absence of brands from the *Recommended* list does not necessarily imply a non-recommendation.

¶ Those who desire a more complete discussion of technical details of methods of test, together with the *Intermediate* and *Not-Recommended* listings of products as well as those *Recommended,* should subscribe to Consumers' Research *Bulletins* (issued monthly except during July and August). The annual subscription price of the *Bulletins* is $3 which includes the September *Bulletin*—an annual cumulative handbook of buying of more than 200 pages.

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¶ Teachers and groups interested in using *Consumers' Digest* in class or discussion projects should write for special rates on lots of ten or more copies.

Vol. II August, 1937 No. 2

# CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

## ADVICE ON PAINTS

THROUGH the improper selection and application of paints, millions of dollars are squandered annually. Improper application, especially, is probably responsible for a large share of the waste, though no small part is due, of course, to the poor quality of most of the paint sold. Consultation with a reputable *painter,* not a salesman, about paint problems is always to be recommended. While a painter may know many things about paint that are not so, his advice will be much better on the average than that of any paint salesman or paint company's representative. Good painting is an art, and as such requires careful study and practice.

The subject of paint and its application remains in a highly controversial state. Even experienced technologists in the paint industry make utterly irreconcilable assertions, often indicating with strong emphasis that their personal views are based upon scientific evidence accepted by paint men generally. The truth is that very few fundamental principles have been established, and there has been much less effort to establish such principles than is generally imagined. The small nest-egg of sound knowledge is lost in

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a mass of conventional procedures, traditional prejudices, and speculative theories. During the past ten years, paint technology has advanced considerably, it is true, but much is still unknown.

It is possible to make tests of paint prove almost anything, because, as in most tests, there are always many variables and human elements which, if not taken into consideration, may affect the final results to an extent that makes impossible any accurate conclusions. In the hands of unscrupulous persons, these variables are regularly manipulated to produce grossly misleading results.

The practical experience of consumers likewise leads to surprisingly divergent views, because consumers vary widely in their habits of paint maintenance and in their criteria of the serviceableness of paint products; and they are almost never in a position to make fair or even reasonably complete comparisons between competing paints. No one kind of paint is best for all house-owners. For successful results this must be properly adapted to the user's maintenance program and both paint and program must be in accord with his attitude toward the various types of defects and failures with which paint is afflicted. A fully satisfactory paint of any type remains to be discovered.

Ready-mixed paints are somewhat more convenient to purchase than paste paint, oils, and colors, especially when very small amounts of paint are needed and an exact match in color is not necessary. Ready-mixed paints are undoubtedly safer when the painting is to be done by an amateur or by an inexperienced or untrustworthy painter, because more serious mistakes in mixing, or deliberate adulteration by the painter, are possible with paste paint. A skilled painter who takes pride in his craftsmanship, however, usually demands paste paint because it permits him to mix each coat in proper proportions to produce the most durable results.

Listings of prepared paints by specific brands are likely

to prove unsatisfactory. Manufacturers are unscrupulous about changing their formulae without the knowledge of the unsuspecting consumer (even varying the composition of their old-line brands on which their claims of excellence over many years have been based) in order to adjust production costs to current prices of raw materials.

As a result of a consumers' rebellion some 30 years ago, the law in a few states requires that paint be labeled with a statement of its composition. These laws, like all advanced legislation, set something of a standard for the rest of the country, and formula-labeled paints are now generally available. Paint buyers are vitally interested in formula label laws because they afford the main assurance that paint will be described accurately enough for intelligent purchase. Consumers are urged to buy only formula-labeled paints and to use their influence whenever possible in support of existing laws or efforts to extend the laws to other states. They should be careful, however, to support only legislation that requires complete disclosure of composition because the most dangerous form of the manufacturers' lobby opposition to formula labeling consists in offering "model paint laws" couched in general terms that do not disclose composition.

Formula labels on paint made by responsible manufacturers may usually be accepted with confidence by consumers. The paint selected should be the one that contains the best materials in the correct proportions. But even honest statements of composition on the label are, as a rule, useless as far as the average layman is concerned, because he doesn't know how to tell a good paint from a bad one by a list of ingredients. Indeed, some manufacturers have taken advantage of this ignorance to put absolutely worthless paints on the market with a full analysis printed on the label.

Falsely labeled paint is sometimes offered by "back-alley" manufacturers who display a new brand name every year

or so, and cannot be found when consumers wish to lodge a complaint. It is advisable to buy paint only from makers that give evidence of serious intention of remaining in business under the same name. Responsibility, of course, is *not* a matter of size and national advertising; much good paint is made by relatively small concerns that do business permanently in a limited territory and often succeed in underselling their large competitors by keeping sales and advertising expense at a minimum.

Large buyers should and usually do buy paints only on specification. This practice assures them of a good and uniform product, usually at a substantial saving. Buying on specification is not only beneficial to the individual consumer, but it encourages the manufacture of quality materials and discourage the exploitation of cheap paints by dishonest manufacturers. When paints are so bought, check tests must, of course, be made on each lot received to insure compliance with specifications. It is not practical to buy paints in this way in quantities of less than 50 gallons. The necessary acceptance tests cannot be properly made for less than $25 per lot, and this would run the unit cost up considerably on smaller quantities. Paints bought on specification should be obtained in the paste or semi-paste form, especially if they are not required for immediate consumption.

**Lead-Zinc, LZ Type**

**White**

RECOMMENDED

*Ad-el-ite* (Adams & Elting Co., 1833 Seward, Chicago)

*B.P.S.* (Patterson-Sargent Co., E. 38 and St. Claire Ave., Cleveland)

*Certain-teed* (Certain-teed Products Corp., 101 E. 41 St., N. Y. C.)

*Diamond* 100% Pure (Diamond Products Co., 2750 N. Lincoln St., Chicago)

*Endurance* (The Glidden Co., 11,100 Glidden Ave., Cleveland)

*Gilt Edge* (Farwell Ozmun Kirk & Co., Jackson and Kellog Blvd., St. Paul)

*Lion* (St. Paul White Lead & Oil Co., Water and Starkey Sts., St. Paul)

**Gray**

RECOMMENDED

*SWP* (Sherwin Williams Co., 101 Prospect Ave., N. W., Cleveland)

**Titanox-Lead-Zinc, TLZ Type**

**White**

RECOMMENDED

*Acme New Era* (Acme White Lead & Color Works, 8250 St. Aubin Ave., Detroit)

*Best Quality* (Marshall-Wells Co., Duluth)

*Chief* (Chicago Paint Works, 1330 S. Kilbourn Ave., Chicago)

*Commander* (Pratt & Lambert, Inc., Werheim and Thomas Sts., Buffalo)

*High Standard* (Lowe Bros. Co., Dayton, Ohio)

*Jewel* (Jewel Paint & Varnish Co., 345 N. Western Ave., Chicago)

*L.T.Z.* (Armstrong Paint & Varnish Works)

*Lucas* Super Outside White (John Lucas & Co., Inc., Race and Garstin Sts., Philadelphia)

*Lyt-All* Exterior White (Pratt & Lambert, Inc.)

*Seroco Master* Mixed (Distrib. Sears, Roebuck & Co.)

*SWP* (Sherwin Williams Co., Cleveland)

*Tri-white* (St. Paul White Lead & Oil Co., St. Paul)

**Gray**

RECOMMENDED

*Best Quality* (Marshall-Wells Co.)

*Chief* (Chicago Paint Works)

*Jewel* (Jewel Paint & Varnish Co.)

**Lithopone-Lead-Zinc, PLZ Type**

**White**

RECOMMENDED

*Duo-White* (Patek Bros., 226 N. Water, Milwaukee)

THE average manufacturer who is about to put a white shoe cleaner on the market will hunt for some formulas in a book or will inquire for them of the *Manufacturing Chemist,* the *American Druggist,* or other well-known trade journals. He will then usually proceed to calculate the cost of production for each one and select that one which can be made at the lowest cost and with the least trouble. By this method he can expand a half-cent's worth of ingredients into a neatly labeled bottle of cleaner which sells for 25 cents at retail. What the consumer gets by this palpably irrational, profit-grabbing scheme, perhaps nine times out of ten, is a product which will in a short time ruin his shoes and which, at the very best, will not do as good a job as is easily possible by using a full cent's, instead of a half-cent's, worth of ingredients in the 25-cent bottle.

An editorial in a trade journal was "not disposed to censor [*sic*] a cleanser manufacturer for marketing a lotion at 25c retail which may, and in most cases does, contain 80 per cent water, one-half cent value of chemical(s) and about one-quarter cent's worth of pigment—if he can get away with it" but ventured to suggest the view that "the whole cleaner set-up is one to discourage attainment of the maximum popularity of the white leather shoe."

The name "white shoe cleaner" is more or less misleading because most white shoe cleaners are in fact akin, in their effects, to paint, since for the most part, they cover

spots and stains rather than remove them. A good cleaner should contain as much inert white pigment (such as titanium oxide, lithopone, but of course not a lead pigment) as can be conveniently applied to the shoe by the user, and a spreader or vehicle which serves to carry and spread the pigment and, when dry, to make it adhere.

A cleaner to be used on leather shoes should not contain, as do many on the market, a large proportion of naphtha, carbon tetrachloride, or similar organic solvent which extracts the natural oils and greases from leather and so greatly impairs its appearance and hastens its weakening, scuffing, and ultimate rotting. The cleaner should be neutral in chemical reaction, a matter which can be easily tested for with red and blue litmus papers. The shoe cleaner, if it is neutral, will not change the color of either the red or blue litmus. If red litmus paper, on the other hand, turns an intense blue in the cleaner, alkali, which is ruinous to leather shoes, is present. Alkali, commonly as trisodium phosphate, has been a very common ingredient of shoe cleaners, especially in the more expensive ones selling for 25 cents a bottle. Manufacturers who strive for a very cheap product, sold at perhaps 10 cents a bottle, evidently think that even this low-cost ingredient is too expensive and thus, in an indirect and unwitting way, better serve the users of their products.

For canvas shoes, one of our subscribers who lives in the tropics (where the white shoe is worn daily the year round) recommends whiting, or powdered chalk. Enough whiting to last for several years can be bought for a quarter in a paint store. Mix the whiting with water to a creamy consistency and apply with a sponge, rag, or brush, rubbing soiled spots. Mild white soap with water and a stiff brush may be used sparingly to advantage in cleaning very dirty shoes. If whiting is applied to the shoes in the evening, they will usually be ready for wear in the morning.

There are hundreds, perhaps thousands, of brands of

shoe cleaners. Of ten of the more widely known ones tested, we can recommend only the four which follow. Listings are based upon chemical determination of their ingredients.

RECOMMENDED

*One White* (Everett & Barron Co., Providence, R. I.) 25c per 5 oz. bottle.

*Luster Shine* Shoe Cleaner & Polish (Lustershine Corp., Chicago; distrib. Sears, Roebuck & Co.) 10c per 3 oz. bottle. Gave the consumer more for his money than any of the others tested. At the time the sample was purchased for test, this brand was listed in Sears Roebuck's regular catalogue. It is not now listed, but a larger (25c) size *Luster Shine* is available at some retail stores.

QUALIFIED RECOMMENDATION

Griffin *Allwite* (Griffin Mfg. Co., 410 Willoughby Ave., Brooklyn, N. Y.) 10c per 2 oz. bottle.

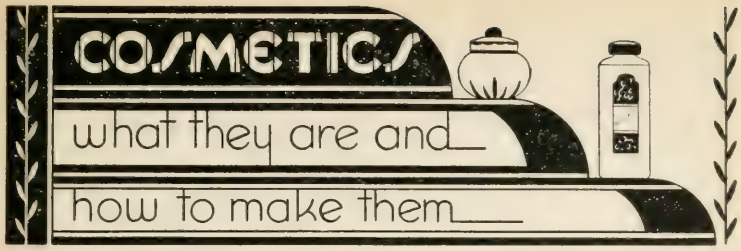
*Tudor* (Tudor Polish Corp., Buffalo, N. Y.) 10c per 2½ oz. bottle. Slight acidity, but judged not sufficiently high to be objectionable.

***Falsely Labeled Goods from Russia***

Among the recent seizures made by the Federal Food and Drug Administration there were 16,590 pounds of butter labeled "Made in U.S.A." when in fact the butter was made in Russia.

It is a distinct service to our American "kulak" butter producers for the Food and Drug Administration to protect their market from the fraudulently labeled fat of Mr. Stalin's collectivized serfs. Relatively little damage could be done the American people, however, by such a small batch of falsely labeled butter.

A fraud which does matter—and matters immensely—is the "Popular Frontism" of Mr. Farley and the Roosevelt Administration. This spurious and deadly poisonous brand of falsely labeled "democracy" was also made in Russia, and has been imported to the United States as well as to Spain and France.




WOMEN are always interested in cosmetics. Beauty — be it natural or applied — is their stock in trade. In the last few years the use of cosmetics, stimulated by advertising and a rich vein of newspaper publicity in favor of their multiplication and diversification, has progressed by leaps and bounds. Not long ago, cosmetics, like cigarettes, were used only by certain types of women. Today they are accepted as a part of routine life of the beau monde, of the small-town dwellers, and of farm women alike. Cosmetics, in order to be kept before the public and to attract notice, have been and are being constantly changed; many of the styles and types remain in vogue for a relatively short time, usually, as with patent medicines, only so long as extensive and expensive advertising is continued under high pressure in women's magazines, the newspapers, and on the radio.

Cosmetics are relatively simple substances. Their cost is often but a very small fraction of the retail price—far fewer cents per ounce than the cost of advertising, which puts them over. The chief difference between many expensive and cheaper cosmetics is the amount spent in advertising. Although "rare and expensive" oils are commonly advertised, the actual appearance of such ingredients in cosmetics is also rare. Even when present, there is considerable doubt as to their value. Turtle oil creams, some selling as high as $10 for a one-quarter-ounce jar, were quite popular, but were they actually superior? And would they have sold had the women known that the turtle oil was

a by-product (the skimmed) of the canned-soup industry? Hormone and vitamin creams, now in vogue, probably actually do contain hormones and vitamins, but there is no evidence to prove that they are absorbed by the skin and there is little evidence that, if absorbed, they would be of value to the skin.

The most fantastic claims for cold creams are those made by the makers of creams containing gold. Gold appeals to the public because it is usually associated with things expensive and desirable. Although there is not the slightest scientific basis for its use, "science" is brought into advertisements using the phenomena of colloidal substances, which, though they are universally present in thousands of commonplace chemical preparations, sound scientific and lend an appeal for the consumer, who naturally enough knows as little about colloids as he does about chemistry. The statement that the "state of constant agitation" of gold atoms massages the skin is so far up in the region of the utterly ridiculous as to represent a "high" of some kind in cosmetic claims. This massaging action is supposed to result from a phenomenon known to scientists as the Brownian Movement, but the advertising does not mention that this is a phenomenon common to all colloidal substances, including a colloidal solution of dirt suspended in water. To be sure, some cosmetics do contain expensive materials, such as cholesterin ($30 per pound), in small quantities, but this does not by any means imply that all high-priced cosmetics contain high-priced ingredients or, indeed, any different ingredients from those present in the cheaper ones sold at ten- and twenty-cent stores.

Few cosmetic firms carry on extensive research. Because comparatively good cosmetics can be produced economically with inexpensive machinery and with a large margin of profit, numerous small cosmetic manufacturers have sprung up in most large cities. Too often the determination to present a given cosmetic on the market arises out of its

fine appearance (such as a pearly luster, a delicate pink tint, a peculiar texture or consistency) and includes no consideration or knowledge of the potential harmfulness or disadvantage of the product. The best-known example of the effects on a large scale of ignorance in the manufacture of cosmetics is the now classic case of the use of thallium in the depilatory cream, *Koremlu*. This substance was not only definitely poisonous when applied to the skin, but its use in this connection was guided by no knowledge whatever on the part of its manufacturer of the dangerous properties of the element, thallium, which is one of the most toxic substances that could possibly have been included in a cosmetic preparation. In exactly the same way, wood alcohol, mercury, carbolic acid, nitrobenzene, paramidophenol, salts of lead, and a host of other harmful or deadly substances have been used in cosmetics either in total ignorance of their properties or in the hope that the users would be lucky and nothing particularly dangerous would result.

Some of the substances used in cosmetics are allergic; the word is much overused, but allergy in cosmetics is not at all uncommon. Because of this, one cosmetic manufacturer maintains an extensive research and control laboratory, which not only investigates new formulae, but also checks their chemical purity and biological harmlessness (even as to the possible production of an allergy) on laboratory animals. An allergy is a disease condition caused by the action of certain substances (present, for example, in pollen and in certain kinds of foods, such as strawberries, shellfish, and milk) acting upon the skin or other bodily organs of a person who has what is known as a "sensitivity" to the particular substance.

The ingredients of cosmetics are naturally of interest to women who use them. Many of them are common substances, and in olden times the making of them from locally available fats, waxes, oils, and odors was a part of the

routine of many a fine household. Certain kinds of cosmetics may be prepared in the home or by a competent prescription pharmacist. The final products may not be quite as smooth or as fine in appearance as those made by large manufacturers with special apparatus, but with a little experience very satisfactory cosmetics may be prepared. Now that their use has become a part of the daily routine of women everywhere, it would seem that the making of a limited variety of common cosmetics could very well be included in a high school course of chemistry or home economics.

No special apparatus is needed for home making of cosmetics. An electric mixer is a valuable adjunct for making creams and certain other varieties of cosmetics. The speed should be slowed down so as not to incorporate much air. The "drink mixer" attachment is often valuable. Waxes and fats can be melted in an aluminum pan or in a glass or china container placed in a pan of hot water. Actual mixing is usually best carried out in a preheated *Pyrex* or porcelain dish. A wooden, rather than metal, spoon or beater should be used to stir.

Chemicals may usually be obtained from a prescription pharmacist. If he does not stock them, he can order from his wholesale jobber.* (It is well to note in this connection that many druggists have become so accustomed to pouring pills and liquids out of bottles rather than compounding them, that they do not wish to be bothered to send special orders for chemicals to their wholesalers. In some cases they often give as an excuse that the chemical is unavailable or that its price is very high, or something of that kind. A good druggist will not put such obstacles in the way of the consumer wishing to do a little of his own compounding or wishing the druggist to do it for him.) Always purchase the best chemicals, not the so-called technical grade. The difference in cost is slight, and often technical grades contain harmful ingredients. One of the

* Any of the chemicals can be obtained from Buffalo Chemical Supply Co., Box 240, Buffalo, N. Y., who will supply them in weighed quantities if desired.

newer chemicals which is finding use in cosmetics is triethanolamine, sometimes called T-E-A. This substance has the desirable property of reacting with fatty acids (or the free acids of a vegetable oil) to produce a soap which differs from ordinary soap in that it is less alkaline. A further advantage of this chemical is its convenience, since cosmetics can be prepared much more easily with it than with caustic alkalies, such as potassium hydroxide or ammonia, that are employed to react with the fat or oil.

### *Creams*

*Cold Cream.* Cold cream is the oldest cosmetic and the basis for many new ones, such as tissue creams, astringent creams, bleach creams, and certain cleansing creams. Cold cream, as the name indicates, is a simple emulsion, just as ordinary cream or whole milk is an emulsion of butter. (However, some so-called creams are not emulsions, as the term has found wider use.) Cold cream, as a rule, consists of an emulsion of a mixture of liquid oils (usually mineral oil, although almond oil is sometimes employed) together with waxes (such as spermaceti from the sperm whale, or wax from bees). The object of the waxes is to render the product solid. Liquefying creams contain less solidifier, so as to melt at body temperature. In order that the oil will not separate from the water portion, an emulsifying agent is employed. A variety of substances are used, such as borax, alkali, triethanolamine, and organic substances, such as oxycholesterin, etc. It has been claimed that the use of two emulsifying agents produces a better cream.

*Cleansing Cream.* This differs from cold cream in several ways. Usually, it is the liquefying type in which less solid waxes are employed, so that the cream readily liquefies at body temperature. Many of them are not truly "creams" in that they are not emulsions but only mixtures of oils and waxes. Some are actually detergents since they con-

tain cleansing agents, such as sulphonated castor oil. Most of them, however, are not truly cleansers; they merely mechanically remove surface dirt by mixing with it and being then rubbed off.

*Astringent Cream.* This is simply cold cream containing an astringent substance, such as zinc sulphate, alum or aluminum salts, etc. These creams temporarily, if at all, contract the "pores" (actually not the true pores, but enlarged hair follicles).

*Bleaching Cream.* This is simply a cold cream containing a substance which has whitening action. Certain bleach creams contain hydrogen peroxide or other peroxides; others contain mercurial compounds which are poisonous. These should be avoided. There is always the hazard of the harmful effect on the skin, and with certain skins the possibility of really irritating dangers and disfiguring reactions. Those which contain substances like salicylic acid are also likely to be definitely harmful to the skin.

*Vanishing Cream.* These creams, applied to the skin, leave no trace of excess oil or water. They consist chiefly of salts of stearic acid (or other fatty acid) together with an excess of stearic acid and some fatty material emulsified with a large amount of water. Because these contain the greatest amount of water, they are the cheapest creams.

*How to Make Creams.* The following formulae are specially adapted to home or high school laboratory making of creams. If the directions are followed carefully, a satisfactory cream should result. With experience, better creams will be obtained. If possible, the ingredients should be accurately measured or weighed; better results will be obtained than if the "home measures" are employed. While T-E-A (triethanolamine) may be difficult to obtain, it will produce a much better product than other bases. Prices are based upon small-quantity purchases (i.e. usually in ten-cent quantities). Of course, if larger quantities are purchased, the price will be relatively less.

The formulae may be varied to suit one's own taste. If the mineral oil consistency is not desired, use peach kernel oil, apricot kernel oil, or sweet almond oil. (If the latter is purchased, make sure that you are really getting almond oil and not peach kernel oil which is much cheaper.) If the cream is too solid, reduce the content of spermaceti and white wax; if too soft, increase these ingredients. If it is too oily, reduce the quantity of mineral oil; if it is not oily enough, increase the oil content.

*Perfume.* Perfume should be added to the finished cream just as it is cooling. The amount of perfume will vary with the type used and the individual's preference. If desired, one may substitute rose water or orange flower water partly or completely for the water in the cream instead of adding perfume to the final product. Most oils are not suited to perfumes, "bouquets" usually being more popular. Oil of lavender, rose geranium, or lemon are popular alone; oil of bergamot is satisfactory if a heavy odor is desired. Two or three drops are usually sufficient.

*Abbreviations:* The following abbreviations are used in the formula: tsp = teaspoonful; tbsp = tablespoonful; cup = measuring cupful; cc = cubic centimeter (milliliter); g = grams; oz = fluid ounce (if liquid), apothecaries' ounce (if solid); dr = dram. For spermaceti, paraffin, and white wax, the "home measures" are for the melted product. All measures are *level.*

### *Cold Cream*

| | | | |
|---|---|---|---|
| White Wax | 1 tbsp | 15 g | ½ oz |
| Spermaceti | 1 tbsp | 15 g | ½ oz |
| Stearic Acid (powdered) | 1½ tbsp | 9 g | 2¼ dr |
| Mineral Oil | ¼ cup | 60 cc | 2 oz |
| T-E-A* | ¾ tsp | 3 cc | ¾ dr |

* T-E-A (triethanolamine); borax may be substituted for triethanolamine, using 2 g (½ dr or ¾ tsp) of borax; make the cream in the same manner. Borax creams are not usually as successful for the amateur as T-E-A creams.

| | | | |
|---|---|---|---|
| Water (or Rose Water) | 2 tbsp | 30 cc | 1 oz |

Makes over half a cupful (4½ oz.)

Melt the wax, spermaceti, and stearic acid and add the mineral oil slowly, keeping the temperature above the solidifying point of the solids. A convenient method is to melt them in a glass or cup placed in a pan of boiling water. Dissolve the T-E-A in the water, heat to the *same* temperature as the melted fats, and add to them, stirring until a white cream results. Stir until cold. If rose water is not used, add ordinary perfume or 3 drops of flower oil to give desired odor. (When the water is added to the melted fats, be sure they are not above the boiling point of water, else the mixture will foam.)

*Cost of Ingredients*: 26 cents

* * *

***Lanolin Cold Cream***

| | | | |
|---|---|---|---|
| White Wax | 1 tbsp plus 1 tsp | 20 g | 5 dr |
| Stearic Acid (powdered) | 2 tbsp | 12 g | 3 dr |
| Anhydrous Lanolin | 1 tbsp | 16 g | 4 dr |
| Mineral Oil | ¼ cup | 60 cc | 2 oz |
| T-E-A* | 1 tsp | 4 cc | 1 dr |
| Water (or Rose Water) | ¼ cup | 60 cc | 2 oz |

Prepare as for plain cold cream, melting the lanolin with the white wax and stearic acid, adding the mineral oil. Because of the odor of lanolin, a little more perfume may be required (about ½ tsp [2 cc] of perfume or 5 drops of flower oil).

*Cost of Ingredients:* 29 cents

* * *

***Liquefying Cream (Non-emulsified Type)***

| | | | |
|---|---|---|---|
| Mineral Oil | ¼ cup | 60 cc | 2 oz |

* T-E-A (triethanolamine) may be replaced in the above formula by 2 g (½ dr or ¾ tsp) of borax.

| | | | |
|---|---|---|---|
| White Petrolatum (Vaseline) | 1½ tbsp | 24 g | 6 dr |
| Spermaceti | 3 tsp | 12 g | 3 dr |
| Paraffin | 1½ tbsp | 24 g | 6 dr |

Makes over half a cupful (4½ oz).

Melt the paraffin and spermaceti, add the petrolatum and mineral oil (being careful not to cool the mixture below the solidifying point of the waxes). Remove from the heat and stir until cold. Perfume with about ¼ tsp (1 cc) of perfume or 3 drops of flower oil.

*Cost of Ingredients*: 24 cents

* * *

***Liquefying Cleansing Cream***

| | | | |
|---|---|---|---|
| White Wax | 1 tbsp | 15 g | ½ oz |
| Spermaceti | 1 tbsp | 15 g | ½ oz |
| Sulphonated Castor Oil (Turkey Red Oil) | 3 tsp | 12 cc | 3 dr |
| Mineral Oil | ½ cup | 120 cc | 4 oz |
| Water | 5 tsp | 20 cc | 5 dr |

Makes about three-quarters of a cupful (about 6 oz).

Melt the white wax and spermaceti, adding the mineral oil while hot. Mix the sulphonated oil with the water, heat to the same temperature, and add to the mineral oil mixture. Stir until cool. Perfume with about ¼ tsp (1 cc) of perfume or 3 drops of flower oil.

*Cost of Ingredients:* 35 cents

* * *

***Vanishing Cream***

| | | | |
|---|---|---|---|
| Stearic Acid (powdered) | 5 tbsp | 30 g | 1 oz |
| Glycerin | 1½ tsp | 6 cc | 1½ dr |
| T-E-A* | 1 tsp | 4 cc | 1 dr |

* T-E-A (triethanolamine) may be replaced by ¾ tsp (3 cc) of aqua ammonia (a drugstore product—not household ammonia!) or by 1½ g of potassium hydroxide (*Caution!* This is poisonous and caustic; will destroy woolen cloth and react strongly with aluminum: handle with care, especially avoiding least contact with skin, eyes, furniture, etc.). Make otherwise in the same manner as the T-E-A creams.

| | | | |
|---|---|---|---|
| Water (or Rose Water) | 3/8 cup | 90 cc | 3 oz |

Makes about half a cupful (4 oz).

Melt the stearic acid; mix the glycerin and T-E-A with the water and heat to the same temperature as that of the stearic acid. Add the water solution to the melted stearic acid and stir. Continue stirring until cold. Avoid too rapid stirring, especially if an electric mixer is used as, with too much stirring, the cream will occlude a large amount of air and then tend to "fall" as it gets older. Perfume with about 1/4 tsp (1 cc) of perfume or 3 drops of flower oil.

If a slight oily consistency is desired, add about 2 tsp (8 cc) of mineral oil to the melted stearic acid. If the cream is too hard, reduce the stearic acid content.

*Cost of Ingredients:* 15 cents

* * *

In order that the consumer may judge ingredients for identity and quality, a brief description of them is included. Simple tests for these are also included which may be performed by high school chemistry students. If substances purchased are found to be inconsistent with these descriptions and tests, they should be returned to the druggist for replacement by materials which do comply. Numbers 1 to 5 are in the *U.S. Pharmacopeia XI;* and in the case of these, the druggist is required by federal law to sell only substances of such quality and purity as will meet the specified tests, unless the strength, quality, or purity is plainly stated on the container.

1. Spermaceti: white, somewhat translucent, with crystalline appearance when broken and a pearly luster. Tests: melting point between 42 and 50°C (107-122°F); specific gravity 0.938-0.944; completely soluble in 50 times its volume of boiling alcohol (*Caution!* Very inflammable, dangerous to handle.)

2. White Wax: yellowish white (purer wax is usually very white), translucent in thin layers, faint odor, nearly tasteless—free from rancid odor or taste. Tests: melting point 62-65°C (144-149°F); specific gravity 0.950-0.960. Prepare a sodium hydroxide solution by dissolving 5 g of sodium hydroxide (lye—*Caustic!*) in 35 cc of water. Add 1 g of wax to this solution and boil for half an hour (*Caution!* Caustic liquid), adding water from time to time to make up for the water evaporated. Allow to cool; the wax, if of good quality, should congeal, leaving a clear liquid. Pour off the clear liquid, carefully add hydrochloric acid (HCl—*Caution!* Caustic.) until the liquid turns blue litmus red. There should be no precipitate if the wax is good.

3. Mineral Oil (Liquid Petrolatum): odorless and tasteless, colorless, oily, transparent liquid. Heavy oil should be employed; this is more viscous (i.e., "thicker"—slower moving) than light oil. Tests: specific gravity 0.828-0.905. It should not affect litmus paper; when heated, good, refined mineral oil does not develop more than a slight petroleum odor and taste.

4. Almond Oil: colorless or pale straw-colored, oily, almost odorless, with a bland taste. Test for peach kernel, apricot kernel, sesame, or cottonseed oil: Add 2 cc of the oil to a mixture of 1 cc of fuming nitric acid and 1 cc of distilled water (*Caution!* Very caustic and must be handled with extreme care) and shake vigorously for 5 minutes. The mixture of oil and acid should not be more than slightly colored; a red color indicates peach or apricot kernel oil; a brown color indicates cottonseed or sesame oils.

5. Stearic Acid: a white or yellowish-white powder or a white, hard, crystalline, somewhat glassy solid, with a faint odor and taste suggestive of tallow. Tests: melting point 54-56°C (129-133°F); 1 g of stearic acid dissolves in 25 cc of warm alcohol. Shake 5 g of melted stearic acid with 5 cc of hot distilled water, cool, pour off the water, and add to it a drop of methyl orange—the liquid should not

assume a red color (test the liquid with blue litmus paper; it should not become red). When 1 g of stearic acid and ½ g of sodium carbonate (or 1½ g of sal soda) are boiled with 30 cc of distilled water in a flask, a clear solution (while hot) is obtained.

6. Triethanolamine: yellowish, syrupy liquid with slight ammoniacal odor. Tests: specific gravity about 1.13, miscible with water, alcohol, and glycerin. Melt 3 g of stearic acid with 10 cc of mineral oil (at a temperature under that of boiling water) and add to this a solution of 1 cc of triethanolamine with 20 cc of water heated to the same temperature. Shake well; a cream or emulsion results.

7. Sulphonated Castor Oil: amber to brown color, jelly-like liquid with a slight odor. Test: readily soluble in water (with the effect of producing suds) and in alcohol or chloroform.

### *Supreme Court Upholds Open Formulas*

The Supreme Court's opinion on a recent open formula case involving the labeling of fertilizer said:

"As the enactment has not been construed by the enforcing officers nor interpreted by the Supreme Court of the State, it is impossible to say what ultimately will be demanded of the complainant. The court below was of the opinion that, reasonably construed, the act would be satisfied if the tag upon a given container revealed the general average of the designated items which went into the storage or curing pile of fertilizer at the factory from which such container was filled. 'These piles range from 100 tons up to 5,000 tons.' This interpretation is, at least, permissible. So construed, we cannot say that the act is merely arbitrary, unreasonable, and beyond the police power of the State. Apparently it can be complied with without prohibitive expense.

"In response to the assertion that compliance with open-formula amendment would require complainants to reveal secret formulas and thus unlawfully deprive them of property, it is enough to refer to the Corn Products Refining Company case:—

"'The right of a manufacturer to maintain secrecy as to his compounds and processes must be held subject to the right of the State, in the exercise of its police power and its promotion of fair dealing, to require that the nature of the product be fairly set forth.'

"And the same principle is broad enough to meet the further claim of right to sell products manufactured prior to the passage of the amended act of 1936.

"We find no material error. The challenged decree must be affirmed."

# LOOPING FROM DENVER THROUGH THE YELLOWSTONE AND SALT LAKE

*By*

ALICE B. EVANS

ACTING on the principle applied by so many tourists in foreign lands that the shorter the stay in a country the better one is qualified to write about it, the writer offers a piece about her all-too-fleeting trip through the Yellowstone.

The trip from Denver to Cody, where the Burlington Railroad connects with the Yellowstone bus, takes close to twenty-one hours. The train was boarded at Denver at night. Travel the ensuing day lay through the undulating wastes of Wyoming, broken by palisaded rocks: a fascinating country, though some tourists *would* call it monotonous! Arid mountains in the background; near the railroad, occasionally, a fertile patch, a corral, a tiny, dejected dusty town, fortunate in the possession of one tree. (All ye who are discontented with your home towns, come look at these!) Then a canyon or two, and toward the end of the trip, broad irrigation ditches and fine farm land.

The overnight stop was made at the Cody Inn, a large, fine hostelry close to and operated by the Burlington Railroad. There tickets are validated or bought for Yellowstone Park. (It is unnecessary to buy a ticket in advance of arrival at a Yellowstone "gateway"; no advance reservations can be made, all travelers being taken care of as they come.) Since there is a number of standard tours to choose from, nearly everyone can be suited; but where one does

wish to deviate from them, this can be arranged upon arrival at a Yellowstone bus terminus or even after entering the Park. The rates include all necessary transportation in the Park (side trips are extra), lodging, and meals. You can, in 1937, take the three-and-one-half-day trip lodge-way for $40.50, hotel-way for only $1 more.

Cody is only one of several of the Park's gateways served by railroads, and one may buy a round-trip railroad ticket entering by any one gateway and leaving by another exit. The town, which is about a mile from the Cody Inn, is, of course, named after Colonel William Cody. Arriving in the late afternoon,[1] one had time to go over to the town and visit the Buffalo Bill Museum. One could also eat supper less expensively, if also less pretentiously, in the town than at the Inn. If you must buy souvenirs for the children, you will do better to get them outside the Park, at such places as Cody or West Yellowstone, than in the Park itself, where there was (it seemed to the writer) a poorer selection, higher priced. Those who didn't stay in the town too late could walk back and enjoy the sunset over the mountains.

The Yellowstone trip starts (or ends) at Cody, though actually the entrance to the Park is fifty-three miles distant. It should be noted here that the buses will take only hand luggage through the Park, and free transport is supposed to be limited to twenty-five pounds. The bus route lies over the Cody Road, justly famous for its scenery, especially for the fantastic rock formations, many of which have been given the names of objects and persons which they suggest, such as "Henry Ford Driving His Car." The route also passes through the Shoshone Canyon and alongside Shoshone Dam, where a stop is made. Even if one does become rather blasé toward canyons, after having been through a dozen or more, this, with the great engineering structure, is one to be remembered.

[1] May not apply in 1937.

Another stop is made, within the Park, at one of the smaller geyser basins. While the walking is not so bad here as, say, in the great Norris Basin, if you have been prudent you will have donned old shoes, sufficiently stout, which you will cheerfully discard at the end of your Yellowstone tour. The feet sink into the soft, wet deposits which, it is said, wreak disaster upon footwear even if you succeed subsequently in making it again look respectable.

Traveling lodge-way, one is assigned to a cabin. The cabin contains bed, washstand with pitcher, basin and jar, table and shelf, chairs, a wood-burning stove, and a tea-kettle. On the stove you can heat water—there is no hot running water obtainable. A young man will start your fire for you early in the morning. At night, if you want one, you build it yourself. Nights are shivery and warmth is welcome. (Days are generally warm, sometimes hot; they can be cold, too; snow has fallen in August; bring warm clothes including a wool dressing gown—you may want it to go to bed in!) Meals are taken in the spacious lodge, a short walk from the cabins. Toilets are in a separate building, convenient to some cabins, not so much so to others. The bath is in a separate building, charge fifty cents. Informality is the note of traveling lodge-way, and people are said to change from hotel to lodge because of this greater informality. Lodge-way, one may make a change of clothes in the evening, or one may keep on one's riding or hiking clothes and not feel out of place (a few even come provided with no other outfit). Those who care for lodge entertainments may also like to be convenient to them by traveling lodge-way. At the Canyon, the cabins are enchantingly located in a grove at the rim overlooking Upper Falls; in the rain, however, this location is rather dismal. At Old Faithful, the cabins are more exposed and seem, therefore, more cheerful.

The hotels, on the other hand, are luxurious structures, which, though designed and furnished suitably to their for-

est environment, contain metropolitan conveniences and refinements. Elderly, ailing, and highly urbanized people, and those with expensive habits, or longings, would certainly prefer them. Also, if you have already been living cabin- or lodge-style in the Rockies and have been suffering the discomfort of cold rooms, clammy beds, and hot water by the pitcherful, the chance to enjoy hotel comforts for only $1 more on the standard tour may appeal to you greatly. (There is a much larger difference in the *per diem* rates between the lodges and hotels.) Both lodges and hotels have enormous fireplaces, with welcoming fires.

There are also automobile trailer camps, cabins, tents, cafeterias, stores, etc., for automobile tourists.

Not the least of the surprises of the Yellowstone is its personnel. The bus drivers seem to be mainly teachers, some of whom have been spending their summers for years driving in the Park. Conversationally, the choicest seat in the bus is, as a rule, next to the driver. The staff of the hotels and lodges—laundry and kitchen workers, waitresses, cabin and baggage boys, desk clerks, etc.—are, mainly, young college people—the pick, last year, of ('twas said) some 10,000 applications. Not only must they be acceptable for their particular jobs (and those in the more conspicuous posts are strikingly efficient), but they must possess some talent as an entertainer. Every evening in the various lodge halls an entertainment is put on by the "savages" (employees) for the guests—musical numbers, skits, and whatnot, and as the program has to change from evening to evening, the talents of all the employees are used and needed. Each of these affairs is in charge of an entertainer. Tourists from distant parts may be introduced, and in spite of the size of the assemblage, a feeling of ease is quickly established. Dancing is held after the chairs are cleared; the dance floor at Old Faithful Lodge, for instance, is one of the largest and finest that can be found anywhere.

While one might well attend a lodge entertainment at

least once for the experience, the talks given at the ranger stations and museums, located conveniently to hotel or lodge, seem more worth while as combining entertainment and education. The rangers both know their Park and know how to explain its physical characteristics and tell about the wild life in the most interesting fashion. Illustrated government pamphlets pertaining to the Yellowstone are on sale at the stations for small amounts and afford the best purchasable souvenirs of one's visit. If you have brought your camera, don't, as you value your negatives, have them developed in the Park. All work is treated as rush work, and while some may turn out well enough, others you will likely be dissatisfied with, and your most precious pictures may be lost entirely.

Horses are available at reasonable rates, and trips are arranged lasting from an hour or two to as many weeks. To get close to the heart of the region, one should go on a pack trip. There is also excellent fishing.

At the Canyon, there are walks or automobile rides to several vantage points on the rim or down into the Canyon. One should, in the early evening, visit the bear-feeding grounds—a natural entertainment, where the animals are at large, the humans fenced away from them; and, if you have fortitude, make the sunrise trip to the top of Mt. Washburn. This necessitates rising in the cold about 3:30 a.m. It's worth doing! You will need to put on almost everything warm you have—one layer of clothing after another, just so long as you can walk—and a hat that stays moored. You depart, without benefit of coffee, in open buses. Although the trip is not undertaken if the weather threatens, at best it is cold, and Rocky Mountain weather is fickle; you may pass through fog and even (though unlikely) encounter a high wind, hail, and electric storm. The wild life which is supposed to come out to be looked at may that morning prove shy, but you will see a few of them, perhaps a moose and some of the bighorn Rocky Mountain

sheep. And even if the sun should not rise, visibly, you are bound, in one way or another, to have had a memorable experience and attained to some understanding of those lovers of the mountains who yield habitually to the lure of precipices and storms and seek the elation of being above the clouds.

At Old Faithful is a splendid, enclosed, natural warm-water swimming pool.

A detour can be made into the Teton region, a few hours' ride south from the Thumb of Yellowstone Lake. Through the Snake River gateway, buses run to Moran on Jackson Lake, opposite the Teton range. Return can be made to the Yellowstone by the same route, or from Moran one can take a bus to the Union Pacific spur terminal at Victor, Idaho. Standard tours are offered entering or leaving by this route.

The Grand Teton National Park, which was established in 1929, is only three to nine miles wide by twenty-seven miles long, but a great deal of magnificent lake and mountain scenery is concentrated in that area. The Teton Range, forty miles in length, is, as viewed from the east, totally without foothills; the peaks rise sharply to elevations of 9,000 to nearly 14,000 feet above sea level; snow perpetually lingers on the summits of most of them. There is a number of smaller lakes than Jackson, where boating, swimming, fishing, and the Teton scenery can also be enjoyed. Park headquarters is at Moose, Wyoming.

There are two lodges at Moran, which is not in the Park but east of it. Teton Lodge, in the town, has had its location spoiled by the erection of a dam. The lake road has been built up high above the settlement, so that from the Lodge one can see only the upper half of the mountains, the lake not at all. It is, however, only a few minutes' walk up to the higher ground, and for an overnight stop, or for saddle-trip parties using the Lodge as headquarters, the Lodge is adequate. Cabins are clean and comfortable; the

dining room is good; the lounge useful rather than inviting. Stores are close at hand, including a photographic studio (Crandall) where exquisite artists' photos of the region may be bought at no more (or less) than it would cost to take and develop such pictures one's self (assuming one had the time and skill). Their developing work should be reliable. Another Crandall studio is located at Jenny Lake, to the south.

Jackson Lake Lodge, about a mile above Moran, has a restful, isolated location on a hill commanding a view over the lake toward the range. It charges somewhat more than Teton Lodge and appears worth it. A smallish lodge, with an attractive foyer, where one might care to linger on and relax for a few days. Grounds where wild animals can be observed are said to be near.

Up through 1936, few tourists without cars invaded this region. It is advised especially for those traveling by car or having a slightly elastic time schedule; once you are down there, you may wish to stay longer than planned.

To the east of the Tetons lies Jackson Hole ("hole" being the old trapper word for valley or basin), where, in unspoiled country, are a few dude ranches (rates were $35 a week up, saddle horses usually $15 a week extra). A booklet on these is issued by the Union Pacific. A list may also be obtained from the Dude Ranchers' Association, Billings, Montana.

Leaving West Yellowstone (or Victor, if one has come down by the Teton route) in the evening, Salt Lake City is reached the following morning before breakfast. (Dress as lightly as possible. Salt Lake City, situated in a desert valley, is blisteringly hot.) Here, Gray Line sightseeing buses wait, and if you have only the day to spend there, it is best to decide on a full day of bus trips (trips aggregating a maximum of seven hours were had, last summer, for $6). The city trip is suggested for the morning. At noon, the tourists are deposited outside the Temple grounds

and are steered in droves into the Tabernacle to listen to the organ recital.

In the afternoon, a trip can be made to Bingham, twenty-eight miles distant, a mining town one street wide and three miles long, and, beyond it, to the great, open mine of the Utah Mining Company, with its twenty-four or more terraces which are constantly being driven farther and farther back into the mountainside. The vastness of the mine is best realized when one sees a blast on the opposite side but does not *hear* it till some seconds later. This trip can be combined with that to Saltair Beach. One goes to the beach mainly for a dip—to experience the buoyancy of the water (which is beyond the saturation point with salt—the beach is salt!) and get cooled off after a roasting day. But bathers should not be too venturesome. While it is true one cannot sink in this water, one can drown quite expeditiously. If you let the salt water enter your eyes, nose, or mouth (and one almost can't help it), you are in a bad way until you get it out—and there are, or were, no lifeguards. It is best, therefore, to stick close to the shore or close to your guide, who will probably go in with you.

There are two routes to Denver over the Denver & Rio Grande: through the Royal Gorge and through the Moffat Tunnel, the second being the shorter. The two use the same tracks for more than half the distance by either route.

Hours before the routes separate, the most impressive scenery, it seemed, of the whole Royal Gorge route was glimpsed in the dusk of dawn, while the train, approaching the boundary between Utah and Colorado, was threading its way among Gargantuan boulders. By afternoon, the rocks had become oppressive in their tumbled desolation. From an engineering standpoint, the Royal Gorge route is a matter of wonderment, it is understood that in its maintenance it has one of the most expensive roadbeds on the continent. The Royal Gorge itself, where a five-minute stop

is made, is all that it is said to be: so many feet deep, highest suspension bridge in the world, can that little speck up there against the sky be a car? etc. Yet this traveler felt, perhaps because of having already been through so many canyons, that this one did not add appreciably to her experiences, and that she would have done better to have chosen the tunnel route and reached Denver much earlier, in time for a fast train to Chicago.

### References

*Yellowstone National Park.* A forty-two page circular, illustrated, with maps and bibliography. (Available from the Director of the National Park Service, Washington, D. C., free of charge.)

*Yellowstone National Park.* A twenty-page circular of detailed information for ticket agents regarding tours, hotels, facilities, etc., season of 1937, with rates, bus schedules, map, etc. (Available from, or at passenger traffic departments of, Chicago, Burlington & Quincy, Northern Pacific, Union Pacific, and Chicago, Milwaukee, St. Paul & Pacific railroads.)

*Grand Teton National Park.* A thirty-six page circular, illustrated, with maps and bibliography. (Available from the Director of the National Park Service, Washington, D. C., free of charge.)

**Diet and the Teeth**

In conclusion therefore it seems to me useless to try and stamp out dental decay amongst the civilized nations whilst the diet is mainly composed of demineralized and white bread and demineralized and devitalized white sugar.

—C. N. Peacock, L.D.S., in *Nutrition and Dental Health*

# HEALTH HAZARDS IN CONTAMINATED FOODS

*By*
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It has been aptly said that the vitamins, those invisible accessories of our diets, are the little things of nutrition. Equally so, it may be said, the heavy metals, such as mercury and arsenic, are the little things of therapeutics, the art and science of treating disease. These metals are, in many respects also, the tiniest things of toxicosis, the state of protracted ill health. Indeed, they may be the most insidious underminers—chemo-enemies—of normal cellular and tissue activity. This seems paradoxical, for apparently, on the one hand, these metals may be beneficial to health, but on the other, they may be detrimental. In other words, they can blow both hot and cold. To the uninitiated this paradox seems a surprising state of affairs. Not so to the medical scientist, who knows that the vitamins and hormones, which also exist in traces and are necessary for health, may, when abused, produce chronic illness or serious disease. Nevertheless, it is right here that much confusion exists. Laymen, and many scientists too, are apt to think only of the sudden outbursts of symptoms of poisoning as the only manifestations of dangerous effects. Dramatic, if not violent, effects do occur from the use or swallowing of large doses of the heavy metals. These, however, are not concerned in the slowly developing and continuing effects of tiny quantities to which vast populations are exposed,

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day in and day out, under the modern conditions of our existence.

Of particularly great concern are those heavy metals used to combat the insect pests which exist in myriads and would deprive us of the foods for our very existence. The commonest of these metals in use are lead and arsenic. We can obtain the food abundantly and economically with the aid of lead and arsenic, but these same metals may defeat the joy and the purpose of consuming that food. If we do not use the lead and arsenic, we may not have the food. If we are to have the food, we may have to take some lead and arsenic with it. It would seem a problem of relative values —some good at the expense of some harm. What we desire to know is whether our health is really in danger, if we eat such contaminated food. Many expert scientists, who have investigated the possibility, think it is. Some few people, not experts, have claimed these things to be trivial. Therefore, what experts think may prove enlightening and useful, particularly about lead, which in many respects is more important in this connection than is the arsenic.

Although lead arsenate is actually the spray residue that concerns fruit and vegetable growers and public health authorities, it is the lead which will bear emphasis, because this metal has long been recognized as an insidious menace to the health of the people. Lead has generally been regarded as a cumulative poison, a fact which has been repeatedly corroborated by the most rigid investigations. Time and again, it has been shown that lead accumulates in the viscera and bones from which it is gradually and continuously released according to conditions in the body. It is this continued streaming of lead through the body, whether the metal comes from storage-depots within the body or from channels of absorption, that causes cumulative injuries to important bodily functions. These injuries result in manifestations of impaired health which are not generally recognized by the layman as originating with the

eating of contaminated food. Growers generally do not appreciate the dangers of chronic cumulative poisoning, which is quite a different thing from acute or sudden poisoning. Chronic poisoning is really a disease and not a poisoning in the ordinary sense.

The disturbances in the beginning resemble those from some common disorders. Most practicing physicians now recognize that many people, residing in localities where insecticidal sprays are used, show symptoms which can be ascribed to lead or arsenic or both. These symptoms are characterized by loss of appetite, malaise, loss of body weight, weakness, fatigue on exertion, anemia, constipation or other gastrointestinal disturbances, and later pains in joints and nerve paralysis. Lowering of resistance to infections and predisposition to disease are also believed to occur. In the absence of other known causes, such symptoms always should arouse suspicion of injuries from lead. These symptoms are known to be more common, or are more aggravated, during spraying seasons. Conclusive evidence of toxicity can be obtained from analysis of excreta for lead and from examination of the blood, but a diagnosis of suspected poisoning can also be made without evidence of lead in the excreta. A correlation of all evidences with a history of exposure to lead generally enables a physician to arrive at a correct diagnosis.

On occasion, I have had the opportunity of making estimates of probable amounts of contaminated fruit or vegetables which might be regarded as being detrimental to health. These estimates are based on the results of experimentation with animals and on reported intoxications in man. They can only be approximate, since considerable individual variations exist, and actual conditions in the alimentary canal determine the rate and degree of absorption of the poison. Since it is believed that only one one-thousandth of a grain, or a barely visible pinch, of lead, swallowed daily for some weeks or months, may produce mani-

festations of illness, it was estimated in one case that from seven and one-half grains, a quantity equal to about one and a half aspirin tablets, to two teaspoonfuls, of a certain apple pomace, a dried product from apples, eaten daily by an adult for several weeks or months would be deleterious to health. For the actions of arsenic, about four tablespoonfuls of the contaminated pomace would have to be consumed, since it is believed that somewhat more arsenic than lead is required, or about five thousandths of a grain daily, for chronic intoxication. This contaminated pomace was to be used in a variety of ways; in households, for preparing jellies, vinegar and cider, and in husbandry, for feeding livestock. In another case, it was estimated that, for the effects of lead, one whole contaminated apple eaten daily for weeks or months would be hazardous to health; for effects of arsenic, three or four apples daily. In still another case, about four teaspoonfuls of a contaminated cauliflower, when eaten regularly, were estimated as being capable of producing signs of ill health. Very recently I had the opportunity of considering the potential health hazards of cabbage contaminated with lead arsenate, seized in a public market in the Southwest. Analysis showed an arsenic content of 0.02 to 0.45 grain, and a lead content of 0.09 to 1.24 grain, per pound of cabbage. Since one to two grains of arsenic may be toxic or fatal to an adult, one pound of this cabbage contained one fourth to one half a toxic or fatal dose. Frequently large quantities of cabbage are used in preparations of soups, cold-slaw, extractives and the like, which may exercise unusual solvent actions on metals due to use of heat and presence of acids, salts and proteins. Rather large portions of such culinary products may be consumed. For instance, an ordinary portion of cold-slaw eaten by an adult is said to be about four ounces, and if it were prepared from this contaminated cabbage, an adult would eat at the same time something like one sixteenth to one sixth the killing dose of arsenic, let alone a

not inconsiderable amount of lead. I did not hesitate to declare this cabbage unfit for human consumption and a real menace to health, capable of producing acute poisoning. Of course, when the lead and arsenic act together, the effects are additive, and the amount of contaminated food producing illness is less than if either metal were present alone. The effects of these poisons would be even more pronounced in children than in adults, because they may consume more poison or more contaminated food in proportion to body weight.

It should be remembered that, although sprayed apples and vegetables are carefully washed by special methods, before marketing, there is a certain unremovable residue of lead arsenate which remains on the skin, around the stem and in fractures and inaccessible parts. Careless washing, or no washing at all, may leave very dangerous residues of these poisons. It is interesting to note that hydrochloric acid is used in the washing process to remove the excess of lead arsenate from apples. This same acid is a natural constituent of the digestive juice of the stomach where the unremoved lead arsenate, the so-called tolerance limit, is dissolved and made absorbable from the alimentary canal. So the water-insolubility of the lead arsenate is not a guarantee against its toxic effects in the body. It has been argued that apples are commonly wiped or peeled before eating and the stems are not consumed. However, careless wiping does not remove the poisons, and children are likely to be forgetful or inefficient.

The toxic effects of lead are also manifested in domestic animals living on contaminated feeds, pastures and water supplies. This means that the sources of food supplies for people may be contaminated where spraying is done carelessly. Economic losses in live stock have been so large in sprayed regions as to cause growers to give up business. Interesting experiences are frequently related by growers which testify to the actual menace to the domestic animals

in these regions. Turkeys allowed to run in sprayed apple orchards are known to have developed lead poisoning. Horses nibbling on alfalfa or other vegetation grown between the sprayed trees are reported to have died in three or four years. Drift carried to pastures during aeroplane-spraying of adjoining ranches has resulted in repeated payments of indemnities for poisoned live stock. A valley in the Pacific Northwest has received as much as 7,000,000 pounds annually of lead arsenate, and this has been going on for about twenty years. Possibly, in the neighborhood of 50,000 tons of lead arsenate have permanently contaminated the soil of this valley. But the local population assumes the poison is washed away with the rains, or blown away by the winds which generously sweep these regions. Nothing is farther from the truth. The soil retains permanently by adsorption most of the poison strewn upon it, the poison only to be gradually released and taken up by the vegetation growing on such soil. It has been argued that rodents live contentedly in the contaminated soil, and keep on multiplying and menacing the industry even more than spray residues. Some say the bodies of these animals, and even of the people, may contain traces of lead and arsenic, and what of it, if they do.

Although lead may be found in traces in body fluids and tissues of many people, owing to the general use of sprays, ethyl gasoline and contaminated food products, this is not an argument for its harmlessness or its naturalness to the body. On the contrary, medical authorities now believe that such a general presence of lead in the population is a contributory factor to, if not a direct cause of, some common disorders whose etiology has hitherto remained obscure. Among the latter are included even such diseases as cancer, arteriosclerosis and nephritis, although there is a considerable division of opinion here. Moreover, lead never was intended by nature to be a constant or "natural" element of the body; neither arsenic, for that matter. Lead is no longer

prescribed or used internally as a medicinal agent by qualified physicians; arsenic may be used, but only under supervision of a qualified physician. Colloidal lead, which has been tried in cancer, is an experimental proposition far from being generally accepted. It is misleading and improper to speak of "normal lead," as it is never present in the body in the absence of exposure, and serves no useful purpose when it is present. Certain sources of diet may not be entirely free from lead (also arsenic), but that is no justification for condoning or allowing its presence. Obviously, therefore, exposure to lead in any form or by any channel, which will cause its appearance in the body, can not be regarded other than as a hazard to health.

Investigations, which disregard established facts or fail to recognize accepted principles and procedures commonly employed in modern studies of chronic intoxications, are likely to result in premature conclusions or deceptive announcements. Just recently some commercially inspired studies, which are reported to have pooh-poohed the lead arsenate of spray residues as a health hazard, are likely to create misleading impressions and a false sense of security. Unless and until such reports are submitted to experts capable of assessing their true value, they must be regarded as being at complete variance with disinterested researches conducted by scientists the world over. The promotion of commercial enterprise with the aid of insidious poisons, such as lead, is unwarranted when done without control or discrimination and with an utter disregard of the effects of such practice on man. The burden of proof rests with those who would maintain or encourage the contrary without warning or protection of the public.

What is to be done? It would help all concerned, the growers, the enforcement authorities and the people generally, if some independent or government agency would undertake a complete "epidemiologic-toxicologic" survey of a region which has been well sprayed for years. This would

get at all the facts concerning soil, animals, people, vegetation, industrial regulation, desirability of tolerance limits for the poisons and other related matters of interest. This would help the government enforcement agencies in carrying out the will of the people. The United States Department of Agriculture has already done a great deal to make the public conscious of, and protect it against, this menace, but there are apparently also limitations to its power and influence. It is evident from the results of recent prosecutions of many violations that the public is not yet awake to the real situation. The merits of the problem are often obscured, or smoke-screened, by irrelevant matters and trivialities. Government control is interpreted as persecution of, or interference with, legitimate business. The truth is that the federal authorities are actually concerned with the economic aspects, as well as with health hazards. In fact, they are the only ones doing anything constructive about the situation. A great deal of research is being done under federal guidance to determine the best possible insecticides whose health hazard would be negligible and the costs minimal. The proper way to deal with the health hazard of heavy metals, like lead, is to eliminate their use altogether and to develop new insecticides of a totally different kind. This is actually being done experimentally, and it is not too much to hope that practical success will soon be achieved.

In the meantime, producers should avoid the use of lead arsenate or other arsenicals on vegetables like cabbage, cauliflower, Brussels sprouts, broccoli, spinach, kale, celery and snap beans, which are consumed in their entirety. They should use the most effective means possible for removing spray residue from the surface of apples and other deciduous fruits; and they should not use the skins of sprayed fruits in the production of cider, vinegar, jelly, stockfeed or other food products. Consumers should be careful to wash as thoroughly as possible all vegetables and deciduous

fruits that might have been exposed to spraying. Apples that are to be eaten with the skins on should be scrubbed with a wet brush, rinsed and have the skin removed around the stem and blossom end. The parings or skins of commercially grown fruits and the pods, husks or tops of commercially grown vegetables should not be fed to poultry or live stock.

Nothing has been said here about other insecticides which have been tried, such as nicotine, selenium and fluorine. All these have proved unsatisfactory, for one reason or another. Either they are inefficient or impractical as insecticides or they are equally or more dangerous to health. The ravages of children's teeth in fluorine-infested regions of the Southwest and the monstrosities among domestic animals in the selenium-infested regions of the North should serve as sufficient warnings to the people of hitherto unsuspected or neglected hazards. These disasters should be ample reminders of the insidious menace of the metallo-poisons to people everywhere. Of immediate concern, of course, are lead and arsenic, with a greater emphasis on lead, because these are the metals which are used deliberately, though permissively within limits, in such enormous quantities. These provide a large scale exposure of thousands of people and animals and are concealed in and contaminate their articles of diet, without their knowledge or consent. Administrative regulations, which permit so-called tolerance limits of these poisons on foods, are undoubtedly applied with good intentions, and are legally essential for effective public protection under the present terms of the law. However, they are purely arbitrary and do not meet objections raised by scientists. To the latter, the health hazards of these tiny chemo-enemies are real and important. It seems clear that only those chemical substances, which are relatively non-injurious to human health and thoroughly established by scientific research on animals and men, should be used to satisfy the demands for efficient insecticides.

# Tennis Balls

THE quality of tennis balls cannot be judged by their price or appearance, as all the usual and higher-priced balls look very much alike. The statement that a ball complies with the United States Lawn Tennis Association's requirements is about all that the consumer has to guide him in his purchase. Consumers' Research's test has shown, however, that there is a vast difference in quality between balls which bear this very limited approval. The United States Lawn Tennis Association specifies the weight, the diameter, and the rebound. The rebound should be between fifty-three and fifty-eight inches when the ball is dropped from a distance of one hundred inches onto concrete at a temperature of sixty-eight degrees Fahrenheit. These specifications, however, take no account of: (1) The ability of the tennis ball to retain its efficiency of rebound with age. (From the amateur's or the ordinary player's point of view, this is important, but for the expert who can afford to discard balls after a relatively short period of use, it is unimportant.) (2) The durability of the cover, i.e., its ability to retain its nap (important to both the expert and the ordinary player).

Seven brands of tennis balls were tested for their conformance with the United States Lawn Tennis Association's requirements, and, in addition, rebound tests were made after a period of artificial aging. An abrasion test of the covers was performed also. The rebound tests were made on three balls of each brand, and the results averaged. As it was impossible to determine accurately the distance of the

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rebound with the eye, it was found necessary to photograph the actual rebound. All of the tennis balls tested were satisfactory in regard to uniformity of weight and size. In fact no real distinguishing mark of quality, based on weight, dimensions, or appearance alone, could be found. Of the twenty-one balls tested, only two fell below the specified weight, and the difference as to these was very small.

The loss of rebound of a tennis ball is caused predominantly, not by deterioration of the rubber shell, but by loss of the gas with which the ball is inflated. Some of the balls, when new, had a rebound which somewhat exceeded the United States Lawn Tennis Association's requirements, but it was evident that the severe mechanical working which a ball receives in play would soon diminish this excess rebound to within the standard values. It should be noted that the balls sold in sealed containers (pressure packed), showed higher initial rebound. (The samples were tested within five minutes of their removal from the pressure package.) Tennis ball manufacturers recognize that loss of pressure is the principal deteriorating influence and endeavor to limit it in numerous ways: some by filling the balls with nitrogen, which escapes less freely than air through a slighly porous membrane, or by including about one-half cubic centimeter (approximately ⅛ teaspoonful) of a liquid in the air space, which, apparently, is intended to act as a sealer; and others by coating the inside with a paint designed to make the rubber less permeable to gases. One manufacturer claimed on the container that the balls were coated on the inside, but when the balls were dissected no such coating was found.

The following recommendations, etc., are based upon the rebound as received, the rebound after aging, the percentage loss of rebound in aging, and the durability of the cover. These bases of rating, of course, make the assumption that the balls are not to be used by experts, and it is quite probable that some of the balls which failed to receive recom-

mendation because of loss of rebound would be perfectly satisfactory for an expert player who, as previously noted, discards the balls quickly, well before they have time to show any evidence of loss of rebounding properties.

The Wilson Company also markets balls bearing a facsimile autograph of Ellsworth Vines (these balls are believed to be essentially the same as the *Wilson Championship* balls). The cover is represented as being very long wearing, but as it is believed that this brand is not as yet widely distributed, samples of it were not included in the present test.

(An article on golf balls will appear in the next issue of *Consumers' Digest.*)

It is interesting to note that balls of two famous names which were included in the test failed to qualify as first-rate products and, in quality, fell definitely below any of the five listed herein.

### Recommended

*Dunlop* (Dunlop Tire and Rubber Corp., England; American office, 500 Fifth Ave., N.Y.C.) $1.15 for three. Showed best gas retention of any of the balls tested and had very good rebound both before and after aging. Wear resistance of cover very good.

### Qualified Recommendation

*Pennsylvania Keystone* (Pennsylvania Rubber Co. of America, Inc., Jeannette, Pa.) $1.15 for three. Pressure packed. Exhibited excess rebound before and very good rebound after aging. Wear resistance of cover good.

*Wilson Championship* (Wilson Sporting Goods Co., Chicago) $1 for three. Pressure packed. Showed excess rebound before and fairly good after aging. "Super Service Cover" yet wear resistance of cover lowest of all those tested.

*Wards Championship,* Cat. No. 60 A 4675 (Distrib. Montgomery Ward & Co.) 95c for three plus postage. Showed good rebound before and fairly good rebound after aging. Wear resistance of cover good.

*X-pert* Championship, Cat. No. 6 L 1231 (Distrib. Sears, Roebuck & Co.) 95c for three plus postage. Showed good rebound as received, but after aging, rebound fell a little below United States Lawn Tennis Association's requirements. A satisfactory ball for the ordinary player. Wear resistance of cover good.

**Consumption and the Guidance of Industry**

Education of the consumer, as such, is very greatly neglected. We train him in cultural subjects and, to a certain extent, in vocational lines which will provide him with a means of making an income, but there is little in our curricula which teaches him how to use that income wisely, once it has been acquired. As a nation we are far more efficient producers than we are consumers. The consumer is expected to pick up from his family life and environment the knowledge necessary to live wisely. Most of the specific education he gets on the subject comes from advertizers who spend millions of dollars annually trying to persuade him to buy what they want to sell rather than what he needs.

In a régime of free enterprise, consumers' choices, acting through the price system, direct production. Much economic waste results in this process due to ignorance of the consumer and lack of standardization, which prevents him from knowing the real quality of the goods he buys. . . . Producers' control of the consumer through advertising and salesmanship often leads him to buy goods which he does not need, or which are even injurious. As the result of all these influences large quantities of goods are annually produced which are to be described as illth rather than ethical wealth.

—Bye and Hewett in *Applied Economics*

# DRINK AND BE CAREFUL

*By*

RUSSELL C. ERB, EDITOR OF *The Catalyst*

FOOD and drink are dietary companions just as surely as ham and eggs, pork and beans, and bread and butter. Many beverages or drinks are actually foods. They contain nutritive elements that can be utilized for the economics of the body. Other beverages have more of a social than a nutritive value. Because a large number of beverages find use in connection with the routine social intercourse of man, the meaning of the term "beverage" has been greatly distorted.

Beverages may contain, and many do contain, certain constituents of a toxic nature. Many of the toxic constituents are poisonous to the nerves, cumulative in action, and, in some instances, capable of producing an addiction or habit. The quantity of poisonous matter in most popular beverages is usually too small to show harmful effects immediately. However, the continued drinking or eating of even very small quantities of poisonous substances may produce a pronounced and sometimes permanent effect on the human physiological processes. Individual difference is a factor that must be considered in every instance of poisons in the food and beverage supply.

The common beverages in use today include water, milk, coffee, tea and maté, cocoa, fruit juices, carbonated drinks, and fermented or alcoholic liquors.

Water is not ordinarily considered a beverage. Neither is it commonly classed as a food. Yet, in water, we find an excellent beverage so absolutely necessary that it is coincidental with true food. Pure water consists of only two elements: hydrogen and oxygen. Impure water may contain anything and everything. It is a fact that water is the universal solvent. Because of this, water has the

power of dissolving anything with which it comes in contact. Certain things go into solution but slightly, depending on such factors as the time the water remains in contact with the material, the amount of surface that is exposed, the temperature of the water, and the substances already present in the water. Many apparently inert substances may be dissolved in water, depending on the conditions just stated. For instance, water kept in a glass container for a long period of time will show traces of the dissolved glass.

It is not unlikely, therefore, that water may contain substances that we do not expect to find present. The source of the water predetermines the constituents to a large extent. Some of the dissolved constituents may produce a disturbing effect; some a poisonous effect on the drinker.

That water might be the cause of certain abnormal physical conditions of man was recognized quite early. Fifteen centuries B.C., the Chinese believed that water had something to do with goiter. The early Greeks and Romans likewise saw a connection between goiter and drinking water. Their explanation was that certain water acted in a poisonous manner and produced goiter. This water, they argued, contained some poisonous substance. Today we have a clearer understanding of the relationship, and, according to the most widely accepted theory, it is the *lack of* (not the presence of) iodine compounds in water that may encourage goiter. Water supplies far removed from the ocean do not have the opportunity of coming in contact with the seaweed known as kelp, which contains iodine compounds. Inland waters, such as those in the neighborhood of the Great Lakes, lack iodides, and goiter is more prevalent in inland regions.

The ease with which water dissolves metals is shown in the use of copper for roofing and rain spouting. Copper in water solution imparts a faint bluish or greenish tint to the liquid. Rain water flowing over copper and through copper spouting takes up a sufficient quantity of the metal to stain

the cement material over which it may pass. In places where copper rain spouts discharge the water directly over the cement sidewalk, a greenish tint on the cement is easily discernible. It is a visible warning that water may quite readily become impure with an appreciable content of a poisonous metal.

Drinking water may become contaminated with the various metals used for water containers and water pipes. Containers or pipes that are galvanized yield some of their zinc to the water and often cause a notably unpleasant metallic taste in water unless it is allowed to run through the pipes to flush them out, before any is drunk. Brass containers and piping may be the cause of the presence of zinc and copper both, in water. The most serious type of metal contamination is that concerned with lead. The use of lead pipes for conducting water to homes has greatly diminished, fortunately, in recent years. Upon examination of our homes today, it appears that lead pipes are most commonly used for draining off waste water. All other *exposed* pipes through the building are, as a rule, constructed of galvanized iron, copper, or brass. Attention is called to the word "exposed" in the foregoing sentence. In a number of communities lead pipes are used underground for connecting the water-main in the street with the water-plumbing in the home. Indeed, through the influence of the organized plumbing trade in city affairs, the use of lead piping for this type of water-main connection has been made mandatory in some communities. In the interests of public health, of course, such building codes should be modified to prohibit the use of lead for any portion of pipe used for conducting potable water to the consumer. Cases of chronic lead poisoning from this source are numerous, and the actual and potential deadly effect of lead water pipe on the unsuspecting consumer of water has been known for over half a century.

Discolored teeth with ugly brown spots that cannot be

scraped away with the most abrasive tooth paste are the unfortunate lot of *all* the children in certain localities in the United States. This tooth condition, called "mottled enamel," is caused by fluorine in the water used for drinking and cooking during the period when the child's permanent teeth are undergoing calcification. Mottled enamel is a disease that cannot be cured. It can be prevented by using water that is free from harmful amounts of fluorine. It is said that one part of fluorine in a million parts of water is sufficient to produce mottled enamel. Just how many children in America are afflicted with fluorine poisoning is not known. The number must be very large since as many as ninety per cent are affected in some communities and one hundred per cent in others. Changing the source of the water supply is often impossible, except at an expense the community would regard as prohibitive. Towns and cities in some two hundred districts of the United States are at present fluorine poison centers. The worst difficulties with mottled enamel occur in the arid states of the southwest. In more than forty-five scattered communities in Arizona, mottled enamel is endemic, i.e., characteristic of the place or region, with fluorine content in the water supply varying from one to six parts per million. Colorado has twenty-five "mottled enamel" communities, and altogether there are twenty-four states in which the difficulty occurs. Its full extent, however, is not known and no thoroughgoing survey of the subject has yet been made.

Chlorine, another member of the fluorine family of chemical elements, is found in water in the form of the chlorides of sodium. Chlorides, to the extent that they are present in drinking water, are, in themselves, apparently without harmful effects. However, it happens that excessive amounts of chloride give a direct indication of the degree of sewage contamination. The waste products from the human body (e.g., urine) carry a high concentration of chlorides. River water polluted with sewage will therefore

show a higher quantity of soluble chlorides than unpolluted water. The greater the sewage contamination, the more likely that the water will contain excessive bacteria of the kinds that can cause disease. Ammonia and other nitrogen compounds, originating in sewage matter, will be increased in water so contaminated.

Filtration of river water removes over ninety per cent of the bacteria. Those bacteria that escape the meshes of the filtering substance must be destroyed chemically so that the water is made safe for the democracy. Chlorinated lime has been used for this purpose. It produces a decidedly unpleasant taste in the water so that today pure chlorine has replaced it. Chlorine admixed with filtered river water kills the remaining bacteria. Chlorine is an irritant poison, and, in individuals with gastro-intestinal weaknesses, it may aggravate the illness of stomach and intestines to a more distressful state. Cases are well known where there have been epidemics of serious intestinal disease in cities where the chlorine content of the water supply was higher than persons of ordinary health could tolerate. If the water carries trade or industrial waste, the chlorine may unite with certain elements of the waste substances, producing a distasteful, obnoxious water that people dislike very much to drink. Chlorinated phenols, which are toxic compounds, are probably to blame. Any water which people find unpleasant to drink is seriously disadvantageous and a menace to the health of the community, because free use of water is necessary to the body's economy and inhibition of drinking would tend to make for ill health in one way or another.

When a river is unusually turbid, alum or aluminum sulphate is frequently added before the water is filtered. Alum clarifies the water, but because alum is soluble, it remains in the drinking water. Alum is a definite threat to health. Whether the alum is ingested in the form of baking powder or water, the fact remains that alum is an undesirable foreign substance and has no place in food or drink.

Some degree of control of the supply and distribution of milk is maintained by federal and state authorities in most populous districts. Aside from the zinc and copper contamination of milk arising from the practice of pasteurization, and aside from occasional cases of adulteration through the use of chemical preservatives in the milk to prevent its spoiling, milk does not present a serious problem for the toxicologist. Milk is primarily a worry for the bacteriologist.

Arabian writers of very early times mention coffee as a drink. The Persians are said to have drunk coffee as early as 875 A.D. Coffee is a popular beverage consumed annually in enormous quantities. Green coffee is the dry, unroasted seeds of *Coffea arabica,* its natural habitat being tropical countries—Java, West Indies, Brazil, South America, etc. A given pound of coffee for the household is usually the product of more than one type of coffee tree. Green coffee has, as its active principles, caffeine, caffetannic acid, caffearine, chinaic acid, and an aromatic oil. Roasting produces changes in the constitution of coffee, for after roasting we find the active principles consisting of caffeine (theine) not less than one per cent, caffetannic acid, a bitter principle, and caffeol.

Lillian Eichler, in her *Customs of Mankind,* says of the origin of tea: "It was a forgotten gentleman of Holland who introduced tea to the English. History never recorded his name. No one seems to know precisely who he was. But they know that he was a dreamy-eyed fellow who lived long in the Orient, and who came to England at a very early date bringing with him a peculiar little leaf. To this curious leaf the dreamy-eyed Dutchman added hot water and sugar. And he drank. The story spread that the drink from China contained drugs. And as is the way with human nature, everybody began tasting it!"

Tea consists of the young leaves and leaf-buds of *Thea chinensis* and other species of *Thea.* Its natural habitat is

China and Japan, but it is cultivated in India and other tropical countries. The active principles in tea are caffeine (theine, 1 to 5 per cent), theophylline, tannin (7 to 24 per cent), gallic acid, quercetin, boheic acid, adenine, and a volatile oil.

Maté, known also as Paraguay tea and Jesuits' tea, is made of the leaves of *Ilex paraguayensis,* found in South America. It contains caffeine (mateine, 0.2 to 2 per cent), tannin (10 to 16 per cent), a stearopten, mateviridic acid, vanillin, and a volatile oil. The sale of this South American beverage has recently been promoted in the United States as a rival of coffee and tea. The advertising claims for maté mislead invariably the prospective consumer into the belief that the product has amazing properties, that its stimulant and exhilarating actions are practically miraculous. As a matter of fact, its nutritive and healthful effects are simply those of tea or coffee—practically nothing. Don't believe maté claims even if you are shown certificates of merit from eminent South American scientists. Always be skeptical of certificates or testimonials from scientists who reside at a great distance from the point of sale. As a beverage it acts as a diuretic, a nerve tonic, a laxative, and an exhilarant. The latter effect is probably the reason for the misleading claims that maté will cure impotence and produce longevity.

The beverages, coffee, tea, and maté, are essentially solutions of caffeine and tannin. *Coca-Cola* is a carbonated solution of caffeine. The chief effects of these beverages on man are primarily due to the caffeine content and secondarily to the tannins. Both caffeine and tannin (or tannic acid) are classed as poisons, and these, in sufficient single quantities, would produce symptoms of poisoning and probably death. Pure caffeine may be obtained from coffee, tea, maté, guarana, or kola nuts. It is one of those deceitful poisons; it apparently exerts certain good effects while it is at work doing harm. It stimulates and is therefore classed

as a stimulant among the neurotic poisons. Caffeine stimulates the brain and heart. An overstimulation of the heart is harmful in any case but particularly in all cases of heart ailments, and there are in the population a very large number of sufferers from heart trouble of one kind or another. The blood pressure usually increases one or two hours after taking the drug, caffeine. The pulse rate decreases in some subjects and increases in others. After twenty-five hours, the blood pressure will have dropped to its normal level. Since man takes caffeine at intervals of less than twenty-five hours, it may be one of the causes for the many cases of high blood pressure. Caffeine beverages may contribute an added toxic effect where there is an existing high blood pressure, or a tendency toward it. Caffeine also exerts a sustained deleterious influence for several days upon the performance of acquired motor skill. Decaffeinated coffee does not have this effect. Increase in the body's oxygen consumption following the drinking of coffee is about four times as great as that following the use of caffeine-free coffee. The symptoms of caffeine are more pronounced in older individuals.

There is no substantial evidence to prove that chronic caffeine poisoning is caused from the use of coffee and tea. Nervousness and digestive disturbances cannot be blamed on a moderate drinking of caffeine beverages. Most cases of chronic coffee and tea poisoning occur when the coffee or teapot is kept in more or less constant use and when the decoction has been "brewing" for too long a time, or when the person concerned is a noticeably heavy coffee or tea drinker, depending more or less constantly upon the beverage for stimulation. "Strong" coffee or tea is rich in the tannins and the poisonous effects are undoubtedly due to these powerful substances, which do direct damage to the digestive process. Abuse of the drinking of coffee or tea may cause dyspepsia, dizziness, palpitation, insomnia, headache, and restlessness.

If one drinks coffee with milk, the diuretic (i.e., increased flow of urine) action of caffeine is diminished. Cream is more effective in destroying the diuretic action of caffeine. These conclusions were arrived at through a series of experiments conduced on both healthy individuals and patients suffering with various disorders. When our grandparents added butter to coffee, they were unconsciously inhibiting some of the action of caffeine. It is often the case that, by a sort of trial and error process in this way, man has come to take a poison and with it a substance to inhibit or reduce the severity of its action.

The presence of caffeine is noted in the milk of women who drink coffee. After the ingestion by nursing mothers of fifteen grams of coffee, containing ninety-nine milligrams of caffeine, one per cent of the caffeine was found in the milk.

It is claimed by some that caffeine from coffee differs physiologically from theine, as the former is said to act principally on the nerves controlling motion, while the caffeine or theine from tea acts on the nerves of sensation.

Cocoa (and chocolate) are made of a paste from the bean of *Theobroma cacao*. Theobroma means "food of the gods." Its natural habitat is Tropical America, Java, Ceylon, West Indies, etc. Among its poisonous constituents are theobromine and theophylline (theocine). The latter is a more powerful diuretic than caffeine or theobromine. To certain individuals theophylline appears to be definitely poisonous and this may be one of the reasons why people complain of headache after drinking cocoa or chocolate beverages.

Chocolate made from the paste of theobroma seeds contains forty per cent to sixty per cent fat. When most of this fat is removed, the remaining substance is called cocoa. Cocoa appears on the market under the name "soluble cocoa." The word "soluble" is misleading, for a truly soluble cocoa does not exist. The so-called "soluble cocoas" are

made by treating regular cocoa with an alkali. Cocoas so treated are darker in color and therefore appear stronger. In the "Dutch process" for making soluble cocoa, potassium, sodium or magnesium carbonate are the alkaline substances used. In the "German process," ammonia or ammonium carbonate is employed. Alkaline salts, such as those mentioned, are irritant poisons. They may also contain poisonous impurities. Lead is usually present in cocoa made by the "Dutch process"; arsenic also is a not uncommon constituent of treated cocoas. Chocolate ice cream made from alkalinized cocoa sometimes shows a greenish tint, the green color arising from the iron salts formed when the alkali of the cocoa reacts with the iron of the ice cream container.

Fruit juices are popular beverages, especially in summer. Providing the juice is freshly expressed from normal fruit *that is free from poisonous sprays,* there is no health hazard involved. Since a large proportion of the fruit used for making fruit drinks has been sprayed with lead, arsenic, copper, mercury, selenium, or other very toxic insecticides, there is a danger of one or all of these poisonous elements being present in the fruit juice.

Tartaric acid is a constituent in some commercial fruit juices, as, for example, grape juice. In the wine-making process achieved by men through a long process of trial and error as a way of making fruit juices more palatable and healthful, tartaric acid is largely eliminated in the "fining." Whenever the tartaric acid is not in a very diluted state in a fruit drink or beverage, serious symptoms manifest themselves in certain individuals. An ounce of tartaric acid swallowed by mistake has been known to cause death. The symptoms of poisoning from tartaric acid include abdominal pain, vomiting, prostration, convulsions, and collapse. Tartaric acid may cause permanent and serious damage to the liver and kidneys. Grape juice generally seems to have come into bad standing as far as the toxi-

cologist is concerned, so that there is little scientific support for the popular belief boosted by many a prohibitionist and by prominent politicians that grape juice is a notably healthful and wholesome drink. Even the extensive use of potassium ferrocyanide for clarifying grape juice and wine has been reported. Potassium ferrocyanide is a serious poison, and its use in the course of manufacture of any substance designed to be consumed as food or drink is to be unhesitatingly condemned. Certain types of grape juice carry added preservatives which contribute materially to the undesirableness of several brands of the bottled juice of the grape.

The soft drink or carbonated beverage industry is one of the largest industries in the United States. Close to thirteen billion bottles of soft drinks are manufactured annually. The bad feature about carbonated beverages is that they are flavored with questionable chemicals and colored with foreign dyes. Those beverages with a "tang" or a "tart" taste often contain an added organic acid, such as tartaric acid which was previously mentioned unfavorably under the consideration of grape juice. Phosphoric acid is used for the supposedly pure and natural "fruit acid." Because of the methods of manufacture of phosphoric acid, it may contain harmful impurities. Synthetic sweetening agents, such as saccharin or gluside, derived from coal-tar may be added in place of sugar. The "ginger jake" cases several years ago attracted considerable public attention. In these cases, a manufacturer sold a preparation containing the toxic tricresyl phosphate for Jamaica ginger. Many of those who used this product for a beverage, as in ginger ales, etc., became permanently paralyzed. The horrible disablement to which these people were subjected by their drinking of poison ginger extract was popularly known as "jake paralysis." Some 15,000 to 20,000 people are said to have been affected, though the number was never accurately known.

Carbonated beverages are essentially colored water which has been sweetened and flavored and into which carbon dioxide gas has been forced under pressure. When the cap is removed, the pressure is released and the excess of carbon dioxide gas bubbles out of the solution causing the desired sparkle and fizz to the drink. Saponins are added to beverages as head or foam producers. Saponin (from the Latin "sapo," meaning soap) is a glucoside found in soapwort, *Quillaia,* and many other plants. It is an irritant poison, expectorant and emetic. Soapbark, also used for the purpose of making foam, contains sapotoxin, a toxic glucoside. Carbonated beverage interests advocate the use of carbonated liquids as beneficial adjuncts to the health. Their claims are rather far-fetched. Much is made of the beneficial value of carbonic acid—the solution of carbon dioxide in water. While there is probably no damage done in the ordinary or moderate use of carbonated drinks, it must be realized that a solution of carbon dioxide in water, being acid in reaction, acts as an irritant to the stomach. In cases where there is a pre-existing irritating condition of the stomach, such as in cases of hyperacidity, the use of acid carbon dioxide in beverages contributes to the aggravation. The action of carbon dioxide in water solution is shown in the cases of people who bathe in water charged with carbon dioxide. In such instances there is a reddening of the skin, a feeling of warmth, a prickling sensation, and a diminution of skin sensitiveness. The pulse rate may be lowered. If carbonated bath waters have this effect on the body externally, it is not difficult to imagine what effect carbonated beverages of greater strength produce on the more delicate stomach lining.

Because of the presence of carbon dioxide in the beverage and the consequent acid nature of the drink, it is more likely than ordinary water to dissolve metals with which it comes in contact. Copper is an industrial contaminant in many foodstuffs and it has been found in

carbonated beverages in quantities from 0.3 to 0.6 parts per million.

The Chicago Department of Health found at one time that the carbonated beverages sold in their district contained lead. Research showed that the lead came from the lead in the bottle cap and also partly from lead in the machine used for carbonating the drinks. After legal steps were taken to remove all lead from the metallic portion of the carbonating outfit that came in contact with the beverages, the cases of lead poisoning in children were greatly reduced.

Carbon dioxide is a waste product in the human body. It is thrown off by living tissues into the venous blood that drains from them. It is eliminated as waste in every breath of exhaled air. The stomach also eliminates a quantity of carbon dioxide. Why, then, should we drink the gas, carbon dioxide, under pressure in carbonated drinks?

* * *

There is a group of two chemical elements known to chemists as the ethyl group. It is abbreviated $C_2H_5$. Toxicologists have found that this ethyl group, $C_2H_5$, is poisonous to the nerves and substances containing it act as nerve poisons. Example: Ordinary operating room ether is called diethyl ether. Therefore, it contains two toxic ethyl groups. Ether is a neurotic poison acting on the brain and nerves and causes loss of sensation known as anesthesia.

The ethyl group is the active principle of all alcoholic beverages. It is present in the form of ethyl alcohol (ethanol) or grain alcohol. Ethyl alcohol is a neurotic poison, known as an inebriant, acting on the brain and nerves and producing intoxication. The toxic properties of spirituous beverages are dependent on their alcoholic content. No other poison causes so many diseases both physical and mental as does ethyl alcohol in the various forms in which it is taken today.

The cider barrel is a revelation of the probable changes

undergone by ethyl alcohol within the body. The food for the cider barrel is apple juice, rich in two essential substances required for alcoholic formation. These two substances are sugar and enzymes or ferments which convert the sugar into ethyl alcohol. These enzymes get to work immediately and break up the sugar molecule into the simpler but more toxic substance, ethyl alcohol. Let us pause here. At this stage we have our popular autumn beverage, cider. Suppose, however, that the cider is permitted to remain within the cider barrel. Chemical changes of an oxidation nature continue. Some of the ethyl alcohol is oxidized to another toxic compound known as acetaldehyde. Pause again. This is now the actual hard cider stage. It contains ethyl alcohol plus acetaldehyde and it produces inebriation more readily than the cider formed during the first stage. Suppose, now, that the hard cider remains in the barrel. Oxidation changes, brought about by enzymes, continue until the acetaldehyde is converted into acetic acid. This is cider vinegar.

Changes paralleling those occurring in the cider barrel take place within man's body when he indulges extensively in alcoholic beverages. Starting with the alcoholic stage, man imbibes his alcoholic liquors and experiences and exhibits the feelings of inebriation. Oxidation is a normal process in body tissues, and the fact that periods of intoxication disappear when the drinker rests from his drinking spree indicates the fact that oxidation is gradually removing the alcohol from the system. However, just as in the case of the cider barrel, the alcohol to be completely oxidized must pass through an aldehyde or hard cider stage. This period is the stupor period of acute intoxication. In cases of acute alcoholic intoxication, the blood has shown as high as 1.606 mg. of acetaldehyde per 100 cc and the urine, 0.8063 mg. per 100 cc. Sleep usually ends the drinking activity during this level of inebriation. Sleep is nature's best detoxifier. During sleep the aldehydes from the alco-

hol are oxidized to acids, such as acetic acid or oxalic acid. Acids in the tissue are antagonistic to most normal physiological processes, especially in the muscles. They produce the feeling of fatigue. In fact, when the acid reaction has become so pronounced that it is present extensively in the body tissues, death will ensue. Since an unusual quantity of acid matter is forming in the tissue during sleep detoxification, the intoxicated individual arises with the feeling of "the morning after the night before." His body has been robbed of its alkaline reserve in an attempt to neutralize the acids from alcohol. His body, though it has conquered against the acid tendency that might in some cases lead to death, has done so at the cost of considerable chemical damage and depletion of chemical reserves.

Two forms of poisoning with ethyl alcohol are recognized—the acute form and the chronic form. The acute form of alcohol poisoning is spoken of as drunkenness or the drunken state. The reason given for drinking alcoholic beverages is that they are stimulating. As a matter of fact, alcohol is not a stimulant; it poisons by depressing. The portion of the brain that normally holds the individual in restraint is depressed by the toxic action of ethyl alcohol. When the "governor" of the brain is depressed, the mental activities are freed from the restraint ordinarily imposed by reason and caution, and the intoxicated individual becomes coarsely talkative, is given to loud, unnatural laughter, and other crude acts, the tendencies to which are normally repressed. With the governing function of the brain depressed, a temporary state closely related to insanity exists. The inhibitory action of alcohol depresses normal order and reason and, as a result, distorted, unrelated ideas flow through the mind with unaccustomed rapidity and variety. Symptoms advance with every added draught of alcoholic liquor until there is failure to distinguish the trivial from the serious. The drunken individuals may fight over trifles.

As more of the alcohol is ingested, the depressive action becomes more apparent. The mind becomes clouded, sophistry, stolidity, and stupidity pass into somnolence, stupor, and even deep coma. In this state of insobriety, muscle control becomes less and less. Walking becomes abnormally unsteady. Normal speech changes to defective articulation. In acute states of inebriety, the face is flushed, the pulse is rapid, the eyes bloodshot, and the increased blood in the brain makes the affected individual feel dizzy. Vomiting is also a common symptom.

Ethyl alcohol has a local irritating effect, especially in the stomach. It produces a redness and slight ulceration of the delicate stomach lining. Long continued use of alcohol has caused serious pathological changes in the stomach. The burning sensation experienced when beverages of high alcoholic content are swallowed without dilution is indicative of the local action of alcohol in the stomach.

Usually substances are not absorbed by the stomach. An exception is noted in ethyl alcohol which is easily absorbed and, therefore, contributes to the acuteness of the attack of alcohol poisoning. Anyone wishing to delay the symptoms of drunkenness should avoid taking alcoholic infusions on an empty stomach. An empty stomach absorbs alcohol with greater rapidity than a stomach well filled with food. The best foods to eat before and during a drinking spree are the fatty foods. Alcohol is a good solvent for fats and consequently fats and alcohol exhibit a peculiar affinity. Carbohydrates (starches, sugars, sweets, desserts) are probably the worst type of foods to eat with alcohol, and, by this reasoning, of course, cordials and all sweet drinks are the most disadvantageous form in which alcohol can be consumed. Chemically, a carbohydrate is a modified form of an alcohol.

Because of the commonness of the ordinary or acute alcoholism, little thought or attention is given to the more serious form known as chronic alcoholism. Chronic intoxication

may be the outcome of too often repeated attacks of the acute intoxication from ethyl alcohol. There are several other definite causes of chronic alcoholism. If small quantities of ethyl alcohol are taken daily, even though there is no tendency to increase the quantity, there is a likelihood of the individual's becoming chronically poisoned. In other instances, the chronically inflicted takes small amounts of alcohol daily as usual but periodically increases both the amount and the concentration of alcoholic beverage. He goes on periodic sprees, such as the Saturday spree, which is a habitual practice, with some men and women. The cases of chronic alcoholism with the symptoms of delirium tremens are frequently the result of using relatively large amounts of alcohol daily (a few ounces of whiskey). A peculiar type of chronic alcohol poisoning is found in those sufferers who go on sprees occasionally but who have no desire and even a distaste for alcohol between spree times. Whatever the manner in which the alcohol is used to bring about the condition of chronic alcoholism, the essential thing to know is that the prevalence of this poisoning of the public is alarming.

When ethyl alcohol or its beverages is persistently taken so as to develop the state of chronic alcoholic poisoning, several distinct changes are produced in the body. Some of these alterations are so marked that the normal physiological functions are either materially impaired or actually destroyed, and death may be the final result. The first decided change in chronic alcoholism is noted in the alimentary canal. The alcohol acts as a local irritant poison, producing dyspepsia, loss of normal appetite, and a chronic catarrhal condition manifesting itself as the so-called "drunkards' cough."

The red nose is the badge of those chronically drunk. The redness of the nose as well as the cheeks in an individual suffering from chronic alcoholism indicates the damage done to the blood vessels by the ethyl beverage. Ethyl

alcohol acts on the blood vessel walls and causes them to degenerate. With these walls weakened, the blood vessels dilate and, in the case of the small blood vessels on the skin of the nose and cheeks, more blood is permitted to enter, causing a reddening of these parts. Any poison affecting the blood vessels will cause corresponding damage to the internal organs supplied by these vessels. For that reason, in chronic alcoholic poisoning of long duration, practically any or all of the various vital organs may show some degree of impairment. The kidneys show this impairment early during the course of this poisoning.

With the blood supply altered, ethyl alcohol exhibits its insidious effects on the muscles. The voluntary muscles (those muscles over which we have control) are partially destroyed through a process known to pathologists as fatty degeneration. The victim shows the symptoms of paralysis in some sets of muscles and, in general, presents a sad picture of muscular incoordination.

Up to this point the damage done is bad enough. But ethyl alcohol is unrelenting. It begins another and even more vicious attack. It poisons the nerves. Motor and sensory reactions are reduced from normalcy to a state that in no wise resembles the original condition. When nerves supplying the vital organs are thus poisoned, death is inevitable.

Alcohol affects the precision of man. A study shows that the daily ingestion of 25 cc of ethyl alcohol for short periods lessens the precision with which a mechanical process can be carried out by man. The ethyl alcohol was taken in solution and not with the meals. The nature of the lessening of the precision seems at times to partake of a decrease in ability as such and at times to be a more rapid onset of fatigue. It was this effect on man's precision that made industry protest against the use of alcoholic beverages before the passing of the prohibition amendment. Industry was not concerned with the delightful exhilaration experi-

enced by its employees from the time they left the plant until they arrived again. But they were concerned with the after effects that the exhilarating ethyl alcohol had on the precision of their workers. Lack of precision meant inefficiency and inefficiency was translated into industrial loss.

The problem of drunken driving demands an answer to the question "When is a man drunk?" To determine guilt in doubtful instances, it frequently is advocated that the police have blood alcohol tests made of suspected persons. According to Dr. A. O. Gettler, who is an internationally famous toxicologist for the City of New York, blood analysis is of no value for this purpose. Numerous experimental and clinical subjects have demonstrated that the blood ethanol level is not an index of the degree of inebriety. The alcohol content of the brain, however, was found to be in good agreement with the corresponding condition of the imbiber. It is logical that this should be so, but obviously it is impossible to make use of brain analysis except in event of fatal accidents. Spinal fluid analysis indicates essential agreement with the results obtained from brain examination. The withdrawal of spinal fluid, while somewhat more formidable than blood sampling, is a common procedure. It was found that each range of alcohol content of the spinal fluid corresponds to a different and definite degree of loss of body function, or voluntary control thereof.

Some alcoholic liquors contain other toxic compounds in addition to ethyl alcohol. Absinthe is a liqueur containing oil of wormwood (*Artemisia absinthum*). The toxicity of absinthe as a beverage is due to absinthin, a poisonous principle from the wormwood. Absinthin is a heart stimulant and a gastric tonic. The beverage is habit-forming and produces a condition known as absinthism, a diseased state, like alcoholism but much more serious in character.

Alcoholic beverages, like other commercialized beverages, may dissolve some of the metals with which they come in

contact during the course of their production. A case is cited in which toxic phenomena were observed upon the drinking of some Slovakian wine. This wine had been passed through a filter press consisting of copper and brass, the screens of which had been recently plated with cadmium. The poisoning was ascribed to the cadmium content of the wine.

The trade-in price for repeated occasions of exhilaration with ethyl alcohol includes irreparable damaged blood vessels, hopelessly degenerated muscles, and impotent remnants of nerves. Is it any wonder that the general metabolism is deranged and that the chronically poisoned individual looks emaciated? Gout is one of the common indications of the altered metabolism, and it is said that the strongest wines predispose this metabolic condition.

In small amounts and when capable of being fully oxidized by the body, ethyl alcohol resembles a food. Because it produces energy, it has sometimes erroneously been called a food. In larger amounts, it is a positive poison. If alcoholic beverages are to be utilized by civilized man, the forces of education should be directed to teach the greatest moderation in their consumption.

**America's Ace Consumer: John L. Lewis**

A well-authenticated rumor has it that John L. Lewis recently purchased a panama hat in New York for the sum of $75. Heywood Broun's "Newspaper Guild" reporters missed a nice little journalistic divertissement by not publicizing this Lewisiana Purchase. We are, therefore, in some doubt whether the extraordinary price was due solely to the quality of the headpiece or whether a unique size was required for the Lewis head. After all, America's Lewis I who has governors for errand boys and whose men can stop the delivery of mails at will is entitled to wear upon his head something that befits his rank. Only those who successfully ignore courts and control legislatures can say truthfully: "I *am* the State."

# THE COLD IN THE HEAD

*By*

LOUIS W. FLANDERS, M.D.*

I ONCE asked a filling station attendant whether Ethyl gas was better than the common variety, and he replied: "Mister, it's all in yer head; if you think it is better, it *is* better."

In like manner, the cure of a cold in the head lies all in the head, which is so perfectly logical and scientific that I am quite proud to think that I discovered it. If one listens in at his radio from six to seven o'clock in the evening, he rises convinced that it is impossible for anybody in the United States to have a cold at all, and it is quite disturbing to find that in spite of this obvious fact, many persons continue to sneeze and blow. It is very gratifying to find such a receptive audience. This has always been so. Fifty years ago, when the germ theory of disease was gaining ground, William Radam, a gardener, while engaged in killing lice upon his plants, conceived the idea of a microbe killer that would be good for the human family. He put it out in gallon jugs and effected some marvellous cures. Listen to this testimonial: "I was a sick woman, given up by all the doctors, but after taking twenty-seven gallons of William Radam's Microbe Killer, I was restored to perfect health." Nothing fantastic or absurd need stand in the way of the man who has a sure cure.

Radio cure of the head cold seems to be vested in cough drops, germicides and resistance builders. Stress is laid upon the fact that one must take these remedies before he knows that the cold is coming on. This perfectly reasonable claim is accepted without demur by the radio audience.

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* Well-known New Hampshire physician, long in active practice, one of Dr. Flanders' diversions is as an occasional writer of humor. Because of certain truths which it effectively serves to convey, this article provides distinctly more than a mere divertissement.

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But I am disturbed, because I cannot make people understand that cough drops are good for a good many things besides coughs. Undoubtedly they create moisture in a dry throat. Demosthenes demonstrated that years ago with an ordinary cobblestone. I always take all the cough drops in succession when I have a cold, and on the principle that "the last poultice busts the boil," I give credit to the particular remedy that I was taking when I got well. But we have those who have an inordinate desire for sweets. One would not ordinarily care to eat more than two of the average cough drops at a time, and so he is relieved of his craving with a very small sugar intake.

I have a drug clerk in this city so well trained that if I go in and say, "I have a very bad ingrowing toe-nail," he immediately hands me a package of cough drops. Of course, the occasional bystander follows me with his eyes clear to the door, and I know that he is worried. He has doubts as to whether it is safe for me to be at large, and he wonders whether he should not inform the police. But I know that he should be examined as well as I, because he thinks a cough drop will cure a cold. I have always felt that if the Smith boys shaved off their whiskers, their cough drops would be inert. That's what happened to Samson when he got a hair-cut.

Some old-fashioned people believe that gargling removes the "parasite" as well as the germ host. We did not get rid of brown-tails until we increased the number of parasites. But the radio audience is literal-minded. It would be unable to visualize a throat infested with brown-tails. Undoubtedly it will be wise to begin next summer with a course of Father John's Medicine or Lydia Pinkham's Compound, to build up resistance and prevent the colds of 1938.

# SEAWEED TABLETS NO GOOD IN 30 DIFFERENT WAYS

CURE-ALLS are still offered to the ailing. They do not appear so frequently as in the more gullible past, but now and then a particularly offensive one appears, says the Food and Drug Administration.

Recently a case was terminated and fines imposed against John Lee Clarke and William J. A. Bailey of New York, proprietors of the Lee Kelpodine Co., Inc., manufacturers of "Kelpodine Tablets." The tablets were made of compressed seaweed or kelp and were fraudulently offered for the treatment of 32 specific diseases and "other conditions." In this amazing list were included common and general conditions and some of the most stubborn diseases known to the human race. The complete list for which these fakers recommended their seaweed products is as follows: pyorrhea, headache, indigestion, tuberculosis, cancer of the liver, glandular trouble, nervousness, dental caries, underweight, anemia, constipation, general weakness, melancholia, digestive disturbances, asthma, rickets, bone diseases, chlorosis, eczema, stomach disorders, nervous break-down, migraine, high blood pressure, stomach ulcers, hay fever, liver congestion, subnormal growth, mental exhaustion, neurasthenia, rheumatism, arthritis, obesity, and other conditions.

This is not the first case involving the health of the public in which William J. A. Bailey has figured. Food and Drug Administration records show he formerly traded as Bailey Radium Laboratories, East Orange, N. J., and marketed a dangerous radioactive preparation, "Radithor," which caused the death of a leading citizen of Pittsburgh, Eben M. Byers. The death of Byers forced Bailey to cease marketing this product. However, the provisions of the Food and Drugs Act could not be invoked because the preparation was not mislabeled and the act does not allow officials to proceed against sales of dangerous drugs solely on the ground of the danger to public health.

# WAGES VS. PURCHASING POWER

*By*
CHARLES S. WYAND

MEN are interesting creatures. For one thing they organize much of their life about assumptions that *seem* plausible, ignoring more or less completely the fact that everyday experience fails to support the "logic" of their theories. Thus the science of economics rests in part upon the idea that men are reasoning creatures who instinctively recognize their own best interests and act accordingly. Few seem to realize that errors of human judgment are not only common but serve occasionally to make a man act to his own disadvantage. Still fewer will admit that circumstances frequently make it impossible for us to do what is apparently "best." And rare is the man who understands that "best" is a relative term, hard to define, and still more difficult to follow as a basis for human action.

Or, to take another example, many of us feel that college-bred people are both more intelligent and socially more responsible than those with little schooling. And, believing this to be true, we clamor for higher education for the masses. Meanwhile our colleges grind out each year a vast horde of lettered ignoramuses, and the nation continues to be operated by many men of ability who never got beyond the sixth reader in a country school.

Nor have we stopped creating such logical fallacies. In recent years, a more or less new one has emerged that bids fair to captivate the imaginations of millions. It is simple

and therefore popular and was clearly expressed in a letter which came to my desk a few days ago. Commenting on the consumer's unpleasant position in the economy, my correspondent concluded with the opinion that "if the earning power of the masses were increased and their working conditions made more satisfactory, there would probably be less of a market for shoddy goods and unhealthful entertainment." Upon further inquiry, I discovered that what the writer really meant was that if the average worker's income were materially expanded he could and would be a *wiser*, rather than merely better heeled, consumer than he is today. This is, indeed, astonishing, but the idea is accepted not only by the trade unions but by political reformers and the bulk of the population as well. It is, in other words, a widely accepted doctrine and rests upon the quaint old superstition that if men receive enough income to permit some choice in the purchase of goods, they will buy wisely and, through competitive pressure, force the dishonest merchant out of business. The reasoning is "flawless," but it ignores two vitally important facts. The first is that an increase in money wages does not necessarily mean an increase in consumption. The second is self-evident: wealth and income as such have no direct relationship to effectiveness in consumption. Let us look at each of these points in turn.

Many of us have lost sight of the fact that money, whether dollars, guilders, or francs, has value only in and through its ability to secure goods and services for its owner. The pieces of money themselves have no (or very little) intrinsic value except as ornaments or as collector's items. In at least one way the average man realizes this fact, for he will refuse to accept his wages in, say, Confederate currency or even, in most cases, in English shillings or French francs. He wants to be paid in money that can be exchanged then and there for goods. In simpler terms, he is working for money not because he wants money as

such but because he wants the things money will buy. And yet we have everywhere about us today the spectacle of men trying to get more money wages for fewer hours of work. And the result has been that money wages have risen without a corresponding increase in the output of goods. This situation has in turn inevitably led to rising retail prices. As organized labor now stands, the worker, facing a rapid rise in cost of living, is gaining in money wages just about enough to cover the increasing cost of the things he buys as a consumer.

The simple fact of the matter is that increases in money income do not necessarily make a man wealthier. His condition improves only if he can satisfy more of his wants by buying more or better goods. A man earning two dollars a day could actually be better off than a man making seven dollars a day—if the volume of production in the former case were sufficiently large to create a price level proportionately lower than the one prevailing in the latter situation. We cannot increase our economic welfare by the simple expedient of raising wages. It can only be done by increasing the volume and quality of goods and services available for our use. And, as is now the case, as long as we emphasize money and ignore goods, we are likely to find ourselves pacing an economic treadmill that leads nowhere. What men need and want is not more money but more and better goods.

Even if wages increased faster than prices, thus giving a part of the organized workers increased purchasing power, it is still a mistake to jump to the conclusion that "the market for shoddy goods and unhealthful entertainment" would decline. Efficiency in consumption is not and never has been a function of the size of one's income. There are poor people and there are rich people who spend their incomes wisely, for *effective consumption is an art and a science which must be learned.* Due to the complexity of modern goods, people cannot surely know what is "good"

and what is "bad." Nor by being able to "pick and choose" (as income expands) can they be relied upon to make an economically and technically sound selection of wares. If any man, rich or poor, expends his income with efficiency, he must have *learned* to do so. And the process of learning has been a long, slow, and deliberate one.

This does not imply a lack of intelligence on the part of the human race. Intelligence alone will no more make an efficient consumer than it will an efficient surgeon or engineer. Men must learn all three skills or techniques. It is, of course, true that a man could spend his income or perform an operation without specific training, but the result would inevitably be unsatisfactory and might be dangerous to society.

No attempt is here being made to distinguish products as necessities, comforts, and luxuries. Such categories are stupid, for what may be a luxury for one man will undoubtedly be a necessity for another. Consumption is a personal matter. What *all* consumers *should* want is, therefore, a question no reasonable person would attempt to answer dogmatically. However, after the individual consumer has determined what are *his* most intense wants, the selection of goods capable of satisfying these wants can be an objective and scientific procedure. Thus, it is for the individual alone to decide whether he wants to spend his money for a vacation, a mechanical refrigerator, clothes, or whatnot. But when he has decided that he wants (shall we say) a refrigerator more than anything else, he has yet to select the refrigerator he will buy. And it is in this process of selecting *a* refrigerator that he has his opportunity to satisfy his want efficiently or otherwise. That is to say, if he has taken the trouble to *learn* how to buy, he will be assured of maximum satisfaction and service for a minimum expenditure. Otherwise he will buy haphazardly, blindly, and in the process fall a victim to modern high-pressure sales methods.

The consumer cannot shift his responsibility to the producer's shoulders by fighting for enough income to make wasteful consumption possible. Productive as is the industrial system, it cannot satisfy such extensive and unpredictable demands as the ignorant wastefulness of the uneducated, unskilled consumer would put upon it. If most men are to have a health and decency level of living, the productive system must be used with high efficiency. And such efficiency is impossible until the consumer recognizes his own responsiblity and sets about the long, hard job of learning how to consume wisely—and therefore well. In consuming, as in all other activities of men, there is no short road to learning.

**Price-Fixing Laws and the Future**

Much of the fair trade legislation has come as the result of trade association activity, supposedly intended to stabilize prices and to be of some benefit to the consumer but which in actuality merely fixes prices at a height sufficient to safeguard the producer and to stifle competition.

Many of these manufacturers, members of trade associations sponsoring legislation, have not looked far enough into the future to see that, while this may at present place them in a comfortable position, it keeps prices up too high and cannot help but tend to cut down sales.

—James L. Palmer in *Advertising Age*

# Test for presence of ZINC in screening

GENUINE bronze screening is stronger and has been shown by exposure tests to the weather to be more durable than either copper or "commercial bronze" screening. Genuine bronze is an alloy principally of copper and tin, but the so-called "bronze" of the screening industry is really brass, an alloy of copper and zinc in the proportion of about nine parts of copper to one of zinc. Although genuine bronze is distinctly more durable than brass or copper, it is not commonly available; the reason for its not being available is merely that consumers can be satisfied with the *word* "bronze," in place of the *reality* of bronze, in connection with screen wire. It is interesting in this connection to note that not only has the industry adopted a misleading term by calling bronze what is really brass, but the Bureau of Standards has approved that adoption and lends its authority to a government Simplified Practice Recommendation embodying the misleading term. Thus we have the interesting spectacle of the technical services of the government assisting in and confirming the acts of those who mislead the consumer with deceptive nomenclature.

However, in spite of its misleading name, "commercial bronze" screening is generally to be preferred to *copper* screening except where exposure is to the heavy-industrial atmosphere of a large city. "Commercial bronze" may be distinguished from either genuine bronze or copper by a test for the presence of zinc. Brass and "commercial bronze" contain zinc. Proper and true bronze does not.

Dissolve a convenient quantity of the screening in concen-

Adapted from *Consumers' Test Manual*, issued by Consumers' Research.

trated nitric acid. ($HNO_3$). [*Caution!* Do not inhale the brown fumes; work should be done in a hood or window where fumes will be carried away.] After the action has ceased, dilute with about 6 volumes of water and add sodium hydroxide ($NaOH$) until it just colors red litmus blue. Then add a few drops of hydrochloric acid ($HCl$); the solution should now turn blue litmus red. Treat with hydrogen sulphide gas ($H_2S$) by bubbling the gas through the solution. Filter (using filter paper and glass funnel) and treat the filtrate (liquid passing through the filter paper) with hydrogen sulphide. It should not become darkened. If it does, continue treatment with hydrogen sulphide until the filtrate obtained by passing the solution again through the filter paper is no longer affected when the gas is added. The filtrate finally should be clear. Add ammonium hydroxide ($NH_4OH$) to the filtrate until it colors red litmus paper blue. Then add ammonium sulphide ($(NH_4)_2S$) test solution. A white precipitate indicates zinc.

> *Ammonium Sulphide Test Solution:* Pass hydrogen sulphide ($H_2S$) through 200 cc of concentrated ammonium hydroxide ($NH_4OH$) until no more gas is dissolved, add 200 cc more of ammonium hydroxide, and enough water to make 1 liter.

Presence of zinc may be confirmed by adding hydrochloric acid ($HCl$) slowly, as there will be an effervescence, and filtering the solution. To the filtrate add ammonium hydroxide until it colors red litmus blue; then add acetic acid ($CH_3COOH$) until it just turns blue litmus red. Place about 5 cc of the solution in a test tube, add 5 drops of diphenylamine acetate test solution and 5 cc of a 0.5% solution of potassium ferricyanide.

> *Diphenylamine Acetate Test Solution:* Dissolve 1 gram of diphenylamine ($(C_6H_5)_2NH$) in 100 cc of glacial (99%) acetic acid ($HC_2H_3O_2$).

> *Potassium Ferricyanide Solution*, 0.5%: Dissolve 0.1 gram of potassium ferricyanide ($K_3Fe(CN)_6$) in 20 cc of distilled water. This solution should be freshly prepared.

A greenish- to purplish-black coloration indicates zinc.

$$Zn + 2HNO_3 = Zn(NO_3)_2 + H_2$$

$$Zn(NO_3)_2 + (NH_4)_2S = ZnS \downarrow + 2NH_4NO_3$$

Another test is to add a drop of dilute sulphuric acid ($H_2SO_4$) to 1 cc of Orange IV reagent.

> *Orange IV Reagent:* Dissolve 0.01 gram of tropeolin 00 in 100 cc of distilled water.

Then add 2 cc of a freshly prepared 2% solution of potassium ferricyanide ($K_3Fe(CN)_6$) and 0.5 to 1 cc of the solution suspected of containing zinc. If the red color changes to green, zinc was present.

> *Potassium Ferricyanide Solution, 2%:* Dissolve 0.1 gram of potassium ferricyanide ($K_3Fe(CN)_6$) in 5 cc of distilled water. This solution should be freshly prepared.

**Truth in Advertising**

There is a girl named Spencer in Kansas City who lost her job and tried to find another. She ran classified ads saying she was honest, hard-working, and had good references. She could get nothing; too much competition. Then she ran this card: "Young Lady—Unreliable, dishonest, lazy, desires position; short hours, big pay; poor references. I don't want to work but have to." In one day she had over a hundred replies. Nothing in advertising pulls like the truth. It has seldom been tried. But it invariably has a kick like a mule.

—Harford Powel in *Advertising & Selling*

# GULLIBLE'S TRAVELS

July 25, 1937

Snocum,
Coconut Grove,
Pacificania.

Dear Snocum:

At the risk of having you gravely misunderstand the people of this great country, I am writing you today about one of their dearest beliefs. My fear that you may misunderstand is due to the fact that many people throughout the world, including our own folk in Coconut Grove, cherish the stupid and outworn notion that low prices are desirable. The Americans, with their usual progressiveness, have reversed this belief and have set out to fashion the structure of prosperity on the idea that high prices are a general blessing to the people.

Naturally, the merchants of the world have long believed that high prices were to their advantage, but the common folk who buy things have generally held that it was good for their money to go as far as possible and that plenty of goods at low prices was a great boon. Even many Americans held this superstition until the advent of the New Deal, but most of them now see the folly of their former way and are bravely following the leaders of the new theory of high prices.

Higher and ever higher prices! That is what delights the American people. They throw their enthusiastic political support

# GULLIBLE'S TRAVELS

to a national government which actually sets up higher prices as the keystone of its political philosophy. If you ask proof for the soundness of the belief in high prices, I give you the unanswerable dictum of the great President of this country. In an address to his people, Mr. Roosevelt said some three years ago: "If we cannot get prices up one way, we will get them up another." The word of Mr. Roosevelt is enough for twenty-seven million Americans, and it is enough for me. After he had explained to them that he was doing his utmost to raise the prices of all the things which they buy, they showed their convictions as to the advantage of paying more for everything they buy by flocking to the polls and supporting him in an unprecedented manner.

I know without waiting to hear from you that you will be at a loss to understand how people could wish to pay more for their bread, their meat, their coffee, their shirts, their clothes, their houses, and their automobiles. But then, you have never been in America and you do not know the American people and their greatest of all Presidents. You will have to take my word for it, just as I take Mr. Roosevelt's word for it and just as millions of Americans take his word for it. Trouble always comes when people try to think these complicated economic questions out for themselves. Many Americans used to think for themselves, but this is no longer permitted under the New Deal.

Even Senators are trained to eat their own words if, perchance, they have inadvertently expressed an opinion which turns out to be contrary to the subsequently expressed views of Mr. Roosevelt.

As Mr. Roosevelt told his people quite frankly and often, it was one of the major objectives of his government to raise prices in one way or another. As a matter of fact, several ways have been devised at various times during Mr. Roosevelt's reign, and the net result today is very encouraging. Prices are steadily but surely mounting. Even books with Mr. Roosevelt's autograph have sold recently at the unheard of figure of $250 without any discount for wholesale lots.

In the early days of Mr. Roosevelt's New Deal, the principal way of raising prices was to destroy things. People were getting their food supplies too cheaply, so Mr. Roosevelt's men ordered the slaughtering of millions of pigs, a reduction by many millions of acres in the planting of wheat, and the licensing of farmers who wished to grow even seven bushels of potatoes. Cotton was plowed under even after it had been planted, in order to boost the prices of this basic raw material and all the things which are made from it. A barber was sent to prison for charging a customer too little for a haircut. Down in Brazil, where Americans get their coffee, 36,000,000 bags of coffee were burned or dumped into the sea over a period of three years (the total world con-

sumption of coffee is only 29,000,000 bags a year). All of these measures of destruction contributed somewhat to the great objective of high prices, but Mr. Roosevelt was hampered in this program by a few consumer-minded old fogies who sit on the Supreme Court and thought that price raising by a squeeze exerted on farmers was not a wholly proper governmental enterprise. A severe drought, an unprecedented flood, and the boll weevil cooperated with Washington in this program of destroying things, but the Supreme Court, being behind on its new thoughts about prices, was less kindly disposed toward the New Deal.

At this writing, in the early period of Mr. Roosevelt's Second Mandate, the thing which is contributing more than any other to the happy business of raising prices is an organization known as the C.I.O. This is a group of men led by John L. Lewis and his miners. I could tell you many things about this amazing man, Lewis, but my point now is to show you how he and his following are helping Mr. Roosevelt in the most perfect camaraderie to raise prices. It appears that Mr. Lewis works on the principle that an increase in the cost of production will make everybody happy. Hence, Mr. Lewis' men form what they are pleased to call "labor unions" the chief result of whose activities--aside from a few unfortunate killings of common persons who are called "scabs" by New Dealers and "non-striking workers" by

the carping critics of the New Deal--has been to add to the costs of production and consequently to the prices of all articles which they make.

In his noble and unselfish labors, Mr. Lewis has incidentally grown to be very powerful in the political affairs of this land. If he wishes to stop production entirely in some plant where the owners unreasonably resist his demands, he calls up one of his governors on the telephone, and the governor promptly uses the troops of his State to compel the factory to cease producing. On many hundreds of occasions, Mr. Lewis' men have seized physical control of factories and have held them, despite the futile orders of courts and old-fogy judges who learned about law from books and constitutions, until the owners and managers of the factories came to terms with him.

There are some people in this country who are inclined to believe that Mr. Lewis is the de facto head of the United States Government and that Mr. Roosevelt is only the nominal president. One enterprising newspaper has suggested that a fund of $50,000 should be raised to buy the United States back from Mr. Lewis. If the campaign succeeds, the transaction will, undoubtedly, be known to history as the Lewisiana Purchase.

Without pretending to know where the United States is going to come out finally in this popular turmoil over the C.I.O., I can state with the utmost confidence

that prices will continue to rise under the joint governmental leadership of Mr. Lewis and Mr. Roosevelt. This will endear them forever to all patriotic and unthinking Americans, especially the New Deal's government employees and other people of more or less fixed income.

With characteristic ingenuity, Americans have altered their language to fit the new purposes of the high price doctrine. For example, a man who gives the consumer what used to be called a "break" by selling him goods at a low price is called a "chiseler." Laws which have the effect of what was once called "gouging" consumers by forbidding merchants to sell goods at less than a manufacturer's fixed price are called "fair trade" laws. But you wouldn't understand that--you're too far from the New Deal and the New Economics.

Yours for Progressive Ideas,

# What is Consumers' Research?

Consumers' Research is a non-profit membership corporation, supported, and managed entirely by consumers and devoted to their service. It does not accept money or compensation of any kind from manufacturers, dealers, advertising agencies, or other commercial enterprises. The primary purpose of the organization is to investigate, test, and report accurately and reliably concerning the hundreds of common commodities purchased by every family. It is designed especially for those who cannot afford to spend unwisely either one dollar or one thousand dollars in a blind selection from dozens of competing articles, each asserted to be best.

Consumers' Research **Bulletins** are issued monthly (except during July and August). These **Bulletins** contain latest reports of new tests, general buying advice, criticisms of current advertising and sales tactics, important articles by specialists on many different products from automobiles to soap. The information is not academic but practical and has helped subscribers to save money and to get better quality.

A yearly subscription is only $3. To begin your subscription with the June issue, which contains the article on Refrigerators, just fill out the blank below and return it with a remittance (check or money order). You will be sent the **Annual Cumulative Bulletin** for September, 1936, free of charge, and the June **Bulletin**, and your subscription will be entered for Consumers' Research **Bulletins** (including the **Annual Cumulative Bulletin** for September, 1937, when it is issued) for the coming year.

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# CONSUMERS DIGEST

*CONSUMER CHOICES*

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# CONSUMERS' DIGEST

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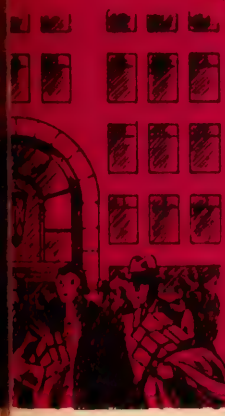

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CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

# SELENIUM, A NEW AND DANGEROUS HAZARD TO CONSUMERS

*By*
George W. Fiero, Ph.D.,
University of Buffalo

Poisons in plants are generally associated with either the use of toxic sprays—usually copper, lead, or arsenic—or with poisonous principles normally produced as a result of plant growth. The former are sprayed on the outside of the plant and can sometimes be removed by means of proper washing in certain dilute acids, but cannot usually be well enough removed by the consumer himself. The second group of plants which, as they grow naturally, are poisonous (for example, water hemlock, jimson weed, toadstools) are plants which must be avoided. They cause frequent deaths among cattle and even children or grown people who taste them, not knowing their danger.

Plants, however, which have grown upon selenium-bearing soil are in a different class from either of these, yet may be extremely poisonous. Certain plants more readily absorb selenium than others, and certain kinds may absorb unbelievably large amounts of this extremely poisonous material and store it in an even more dangerous chemical combina-

tion than it was when present in the soil. However, almost any plant growing in soil containing selenium may become toxic to some extent.

The selenium hazard is not new. Livestock disease, such as "alkali disease," has been common in parts of the Great Plains region since the time of the pioneers. It was, however, thought to be due to the "alkali" water. It caused great destruction of livestock and became so serious that it was impossible to graze stock in certain localities. Just a few years ago there was a scare in a great cereal-growing region of the Northwest caused by the deaths of many cattle believed to be due to some new kind of poison (possibly a fungus or bacteria, it was thought) in the grain which they were fed; and at that time, and before the cause of the disease was known to be in the soil of the region, there even were cases of human poisoning with similar symptoms reported from hospitals. The fact of human poisoning was conspicuously absent from subsequent scientific discussions of the subject, when later it became evident that a poison in the soil in a large area was responsible for the poisoning of the cattle. Within the past few years, it has been definitely proved that the poisonings were not due to water (which contains relatively little selenium) but to plants, which contain a large amount of the poison.

Certain plants have been known to be harmful to stock. In some cases it has been proved that these plants, if grown in non-seleniferous soil, are quite harmless. Plants seem to be able to concentrate the selenium from the soil so that, although the soil may contain only one or two parts in a million, a plant grown on the soil may contain thousands of parts per million. When a plant has more than four (4) parts per million, it is considered dangerous to livestock.[1]

In the past few years there has been considerable research prompted by the *economic loss* to farmers because of livestock poisoning. The first work done in the field was

solely because of the farmers' interest as a producer in the problem; and the obvious relationships of the poison to public health were almost universally disregarded by the experts discussing the subject. In practically every report of the federal or state departments of agriculture, the *economic loss* due to death of *livestock* is stressed with little, if anything, being said concerning the consumer who eats the poisonous meat or milk of the animal and other livestock products. It has been definitely shown that in selenium-poisoned farm animals the poison is distributed *throughout the body,* accumulating in largest quantities in the liver. Milk and eggs, too, have been found to contain selenium.

Not only is the consumer subjected to a hazard from the meat, but, since the part of the country where the selenium content of the soil is worst is in one of the major grain-producing areas, there is a tremendous hazard in the use of wheat and other cereals which have been found to show a content of selenium large enough to be definitely poisonous. Indeed, tests with laboratory animals showed that somewhat less than twenty per cent of this wheat in admixture with unpoisoned wheat was poisonous. Toward the end of the investigations, which enlisted the interest of a considerable number of capable scientific workers, but with a minimum of publicity, an examination was made of families living in areas having selenium-bearing soil (so-called seleniferous soil). Among one hundred and eleven families in these areas, there were many cases of ill health of a kind which might easily have been manifestations of selenium poisoning. Indeed, selenium was present in ninety-two per cent of one hundred and twenty-seven samples of urine examined.

It is a curious fact that the part of the grain which shows the greatest concentration of selenium is the gluten, just as the liver is the principal collecting point for selenium in farm animals—a matter of some interest to invalids, since

both gluten and liver are in the class of foods often recommended in special diet cases.

Too many consumers, as well as governmental authorities, are of the opinion that if a poison is not present in sufficient quantity to produce *immediate* symptoms, it need cause no concern and certainly need not be prohibited from commerce and consumption. Thus, poisonous grains are permitted to be sold on the naive theory that, in the course of the milling process, they will become diluted with non-poisonous grains to such an extent that immediate or serious poisoning will not result. Meanwhile, millions of dollars are spent in search of a cure for such a malady as cancer, which has become more and more prevalent in recent years. It is entirely possible that selenium (like arsenic, the ingestion of which is positively known to have a causal relationship to certain cases of cancer) may be a causative factor in cancer. It is at least conceivable that the milling and national marketing of the grain in a system which spreads the toxic product of one region throughout the food supply of a whole nation may be one of the causes for the wide general increase in the incidence of cancer in recent years.

According to the United States Department of Agriculture, "*So far as is known* at present, only a few cases of injury to man as a *direct result* of poisoning by selenium-bearing vegetation have been *definitely* determined, and in none of these, *apparently,* has the result been fatal."[2] (Italics are by the author of this article.) The phraseology of this statement is, as one journal pointed out concerning the entire article on selenium, "carefully organized." No one would express himself so cagily who was not trying to avoid exposing the selenium areas of the wheat-producing regions to the risk of loss of sales of their product, through the grain-milling industry, to consumers. A most important question, and one which is not brought out in any of the discussions of selenium poisoning, is: Could the average physician recognize the symptoms of selenium poisoning,

particularly chronic poisoning? Dr. Barondes[8] has pointed out that the symptoms of selenium poisoning in animals show a marked resemblance to pellagra in man.

There is no doubt that enormous total quantities of seleniferous grains have been produced. It has been estimated that grain shipped from the affected area totaled, in one season, about *three million bushels* of wheat together with other grains. Millers report that practically all of the grain from the affected areas is shipped out; the farmers in the area know, or are at least partly aware of, the hazard of selenium in wheat, and import from other regions all of the grain used for feeding their own livestock, as though they were to say: "It is quite all right for someone else in another part of the United States to use the poisoned grain, but so far as we are concerned we know better and import good grain which is safe for our animals." That millers know the wheat is not free from defect is indicated by the fact that the price of grain in the affected areas is said to be about one-half of the regular market price.

These are some of the facts which the Department of Agriculture does *not* publicize in its famous and very expensive publicity service to the consumers and farmers of the nation. The government remains, as in the past, under both Old and New Deals alike, extremely selective in its decisions as to what is a good kind of information for consumers to have. It always turns out that any kind of information which would interfere with the sales of any farm product, or would greatly affect real estate values in any region, is not a suitable kind of information to give wide publicity to in the Department of Agriculture's expensive and far-flung press agents' activities.

It has been shown that selenium is a type of poison which produces irreparable harm to the system. As little as one day's feeding with seleniferous grains in laboratory animals produced white patches in the liver (similar to cirrhosis in humans) which could be detected at any later time even

though the animal was never fed seleniferous grains again. A similar effect is likewise illustrated in livestock. Dr. O. A. Beath of the University of Wyoming[4] noted that "an animal may not show any outward sign of poisoning perhaps for *several months* after grazing upon range plants carrying selenium." (Italics not in Dr. Beath's article.) He found that a selenium-poisoned animal may escape death, but it seldom recovers full health.

What have the authorities done about it? The average consumer believes that the United States Department of Agriculture can be relied upon to protect the consumer from such poisoned meat and grains. On the other hand, it has for years been plain, as has been pointed out in *Eat, Drink and Be Wary, 100,000,000 Guinea Pigs,* and numerous *Bulletins* of Consumers' Research, that the Department of Agriculture—like other government departments—is more interested in the dollars-and-cents aspect of food poisons to farmers than in any other element of the problem. It is invariably the farmer's *business* (not consuming) interest that is to be protected, oftentimes at heavy expense to the ultimate consumer. The magazine *Time* (November 13, 1933) points out that "The U. S. Department of Agriculture, which showers meticulous bulletins on the press about most of its doings, is *inclined to silence and anonymity* when it grapples with plant ailments which might be harmful to *human consumers*. . . . For many months the Department has been trying to find out why . . . *cattle* fed solely on this sickly fodder are puny and shortlived. . . . Last week, *when it could report progress on a cure,* the department explained what was ailing the cattle." (Italics are by the author of this article.) Rather than publish data which might cause an embargo on wheat from the affected districts, and hence *economic loss* to agriculture, it appears that the Department felt it better to allow the consumer to continue being a guinea pig until results of research on a cure could be reported, and in this way loss of profits to the farmer be pre-

vented. Politics is a poor master for technical experts.

The Department of Agriculture admits that "It is true that quantities of toxic foodstuffs have been produced and marketed and, unless preventive measures are taken, *will continue to be. . . .* It *seems,* however, that no serious concern need be felt except in the areas concerned. In the general market it is *improbable* that any *serious concentration* of toxic food is likely to reach any individual."[5] (Italics by the present author.) What has been done about it? In 1934, it was announced that the Department was attempting to remove some 50,000 acres of seleniferous land from cultivation as *"unostentatiously as possible."* In other words, rather than quarantine the region, which the Department and state departments of agriculture do often, and readily, when it is a case of *protecting the farmers* against insects and preventing the spread of maladies which might *damage the crops* or endanger fruit or forest trees or cattle, the Department merely attempted to remove a portion of the land from cultivation. Now, though three years have elapsed, *these 50,000 acres have not yet been removed from cultivation,* and the consumer is still being fed poisoned wheat and livestock products from these areas.*

Selenium is found throughout the world. In the United States, it occurs in the Great Plains region, more specifically in certain parts of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, Oklahoma, South Dakota, Utah, and Wyoming.

In a recent publication,[6] it is pointed out that the occurrence of selenium has been traced from the southeastern part of Wyoming to the western border of the State. The United States Department of Agriculture admits that "from the data presented, supplemented by a mass of *unpublished* data on file in this Bureau [of Chemistry and

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* Correspondence with the Resettlement Administration indicates that finally some 100,000 acres in three South Dakota counties are in process of being purchased in connection with removal of submarginal lands as well as of certain seleniferous acreage from crop production.

Soils],* that selenium is of much greater distribution in soils and vegetation than has hitherto been suspected."[7]

The investigation of toxic grains was begun in *1928* when it was realized that grain being produced in this area was definitely poisonous. In 1931, it was called to the attention of the United States Department of Agriculture. This does, indeed, seem a long time for a department, with millions a year to spend on travel and research, to require before beginning to function on so fundamental a problem—a question so clearly within the exact scope of its activities. It is unfortunate that this first work was done by a chemist employed by a state department of agriculture, since it was not until 1934 that his work was published.

The first indications of any knowledge of selenium in foodstuffs was largely by word of mouth: "Whispered confidences, and 'don't quote me' gossip heretofore have been the means of transmitting the surprising tale of selenium from person to person. During the past year [1934] *Food Industries* [which has the widest sources of information in the agricultural products field] has heard these rumors from a dozen sources."[8] It was not until its hand was forced that the Department, in a *carefully organized* address by Dr. H. G. Knight, made public some of the facts of the problem.

The following list gives a few of the many references to this subject. Consumers' Research has an extensive file on it containing hundreds of clippings, letters from chemical and toxicological experts, and reprints. It is interesting that, in many cases, even the titles of certain articles in technical journals were so chosen as to suppress the name of the poison, selenium, and to give no indication as to the regions where the danger lay, though both of such items of information would ordinarily have been prominently presented in the titles of the papers were it not for the exceptional

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* And most of the great mass of data on this question *is* unpublished and for a long time practically nothing was mimeographed or put into print for information either of the public or of qualified experts outside the immediate circle of those engaged in the investigation.—EDITOR.

need, from the state and federal government's point of view, for covering up the facts in this case. Thus even chemical and toxicological experts were given no clue to the important material which was just beginning, in a guarded way, to appear in print; and the warning of the public through their studies and interpretation was so much the longer delayed and rendered the more difficult. Consumers' Research hopes to present in a future article a digest of more of the important material in its files on this peculiarly dangerous and insidious source of poisoning in the American food supply.

**References**

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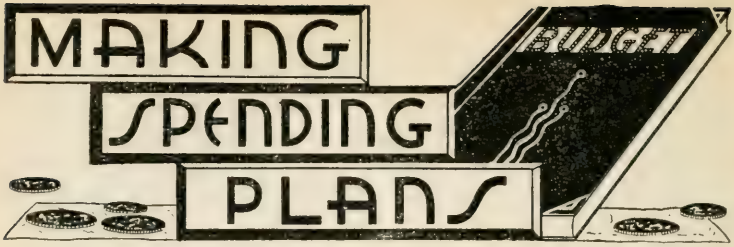
2. *Journal of the Association of the Official Agricultural Chemist,* 18 (1935), 103.
3. *Journal of the American Medical Association,* October 3, 1936, 1161.
4. *Science,* June 21, 1935, 617.
5. *Industrial and Engineering Chemistry,* 27 (1935), 902.
6. *American Journal of Botany,* 24 (1937), 96.
7. *Industrial and Engineering Chemistry,* Analytical Edition, 6 (1934), 296.
8. *Food Industries,* January, 1935, 7.

**Arsenic Pollutes River**

Yellowstone river water isn't being used for drinking and cooking purposes at present. With several tons of arsenic having been scattered in its vicinity to kill crickets, enough washed into the river to make it possible that it might kill human beings as well.

—Los Angeles Herald and Express




*By*

KENNETH B. HAAS, Ed. D.*

GENERALLY speaking, there are three ways of sharing the income. The classic method is for the husband to give his wife money only when she asks for it. That is completely out of date. It puts the wife on precisely the same footing as an irresponsible, dependent child. If she has any intelligence, she resents it bitterly. If she is human, she soon ceases to feel any responsibility for how—or how much of—the family income is wasted.

The second method is to make the wife a regular allowance. It is superior to the classic method in two ways: It is at least systematic; and it lifts the wife from the position of an absolute dependent to that of a paid housekeeper or employee. Only her raises are apt to be few and far between.

The best system from every standpoint is the family budget. This method recognizes the important fact that a wife is a real partner in the business of making a happy and successful home. She has both responsibility and a vote in the management of the family finances.

### Making a Budget

A great many people shudder at the thought of all the accounting, bookkeeping, perspiration, and worry that ac-

* This is Chapter XXI of *Adventures in Buymanship* (Problems of the Consumer) by Kenneth B. Haas (92 pages; lithographed; published 1937). It is available from the author or from The Bookstore, College of Commerce, Bowling Green, Ky., at $2 a single copy; twenty per cent discount for quantities or for institutional use. It is reprinted here by permission of the author.

company budgeting. They also consider it as something so complicated that only government accountants and hard-boiled business men can understand and use it. However, such does not need to be the case at all. Everybody does at least a small amount of mental budgeting, not only of their money, but of their time and energy as well. Though most people depend entirely on a mental budget, this type is entirely too inadequate, too subject to immediate whims, and does not give a permanent record of our expenses and what has become of our income. We need not, however, have our budget any more complicated or difficult than we want to make it. The ideal budget of course would involve an itemized account of all income and expenditures, but we need not do that to have an efficient budget for the average family.

A practical, workable budget can be made on a single sheet of paper. A budget is simply a *plan* for spending intelligently. It is an attempt to control the destination of the family dollars before they have actually rolled away. It is merely common sense and a little forethought applied to the use of the family income.

The important thing is to have the budget well balanced. That is, each of the principal items should be in proper proportion to each other and to income. For instance, if half of your income were spent just for food, the budget would be lopsided. So much would be spent for food that not enough would be left to take care of the other necessary expenses properly. Of course, there are times when a lopsided budget is unavoidable, though uncomfortable. Debts that have to be paid off, serious or prolonged illness, dependent relatives, a large family, are all things that tend to throw a budget out of balance.

Budgeting does not need to be as difficult and brain taxing as it might seem at first thought. First, a checking up on the budget as all money paid out of it is recorded on the check stubs as a permanent record. With the cash the matter

is equally simple—five or more durable envelopes will do. Put food money in one. What is left in the envelope at the end of the week, subtracted from what you put in, shows how much you spent that week for food, this amount can be written on the envelope itself. Do the same thing for the other items. One can count up how much he has in his pocket at the beginning of the week and again at the end of the week, the difference, of course, being what was spent. Every month—or every three months—and then again at the end of the year, add up the checkbook stubs and weekly records and compare the results with the budget.

### Adjusting the Budget

Practical adaptation of guides to the budget of the individual family may require considerable time and adjustment of the family's buying. The guides to family expenditures seem in effect ready-made budgets for the distribution of the income among the general accepted groups of items, including reasonable reserves for permanent savings, as well as actual living expenses. Separate budgets are set up for incomes of different size, and these in turn are adapted to families of different size. For the family of moderate means, but above the poverty level, the following set of figures is popular:

| | |
|---|---|
| Savings (include savings accounts, life insurance premiums, and investments) | 12½% |
| Food (including all meals outside the home as well as food prepared at home) | 25% |
| Shelter (including either rent or the cost of the upkeep of an owned home) | 25% |
| Operative expenses (including fuel, light, telephone, household supplies, and services) | 10% |
| Clothing | 15% |
| Advancement (including benevolence, reading matter, education, travel and vacation, amusement and | |

entertainment, health, club dues, personal taxes, gifts, furniture, automobile, and personal expenses) ----------12½%[1]

The family with a larger income would spend a larger per cent for savings, clothing and advancement. The budget for the poverty level income would probably contain very little for savings and advancement with the others taking on a proportionately larger per cent.

Those figures, however, are safe in that they represent maximum standards for spending and minimum standards for savings; but to help a specific family, they must be adjusted to suit its particular mental, physical, and spiritual needs. An analysis of the entire family situation is necessary to provide the facts with which to build a helpful spending plan, to work out a "made to measure budget" from the ready-made pattern.

Size of income and the number in the family are two necessary and easily found pieces of information. The regularity and the source of the income are also important. A fixed wage or salary offers a different problem from the same amount of money which represents the estimated earnings of a piece worker, a commission salesman, or a man in business. Where the income is sensitive to changes due to business conditions, provision for adequate reserves, in addition to regular savings, is a necessity in order to maintain economic balance. With an income of the same amount, but derived wholly or partially from investments, its use may safely be planned with less for saving and more for spending.

A budget necessarily deals in dollars and cents, but where these are not properly related to the standard of living, the budget is ineffective. The occupation, education, social position, environment, health, and temperament of a family

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[1] Editorial "Determination of Standards for the Establishment of Household Budgets for the Expenditures of Money, Time and Energy." *Journal of Home Economics.* 25:9-12, Jan. 1933.

must be considered in order to arrive at an acceptable plan for the use of the money. Given the same size income, one cannot expect to apportion it in the same way for the bricklayer and the young attorney; for the young couple where the wife has been a wage earner before marriage and the other young couple where both came from homes more luxurious than usual; the healthy family and the one with a chronic invalid; and the family content with simplicity in all things and the family bored to disagreeableness by continued simplicity. Such peculiarities cannot be allowed to rule the budget, but neither can they be ignored if one expects a budget to give satisfaction.

### Establishing the Budget

For what their money has been spent in the past is a question that baffles most people when they attempt to start a plan of expenditure; but to make an intelligent budget with a practical as well as a theoretical basis, one must be able to answer it at least partially. A record of the family's past expenses is the ideal aid, but that is seldom available, and the alternative is an approximation of the distribution of the income for the previous year with the hope that it will prove to have taken all items into account. Figures on old bills, installment payments, insurance, premiums, and expenditures for shelter, coal, gas, electricity, and telephone are easily available; but as these absorb fifty per cent or less of the income, the other half remains to be discovered.

By delving into the case history of the family and lining up the probable past distribution of the income, one gains at least a picture of the financial and personality assets and liabilities of the specific family and is in a position to analyze the entire situation and, by comparison with a proper "safe guide," to see where and how the expenditures vary from these supposedly "average" figures. Satisfaction or dissatisfaction may result from such a comparison. The distribution of the income may show wide variation from the

"safe guide" figures, but when viewed in relation to the family situation the proportions may outline a wise budget, which a thoughtful family has unconsciously achieved for itself. On the other hand, such an array of figures may lead to acute dissatisfaction, for they often tell unsuspected and unpleasant tales; but even so, these figures can give a starting point for setting a new financial goal.

Old debts, installment payments, the paying for and upkeep of too expensive a home are a few of the difficulties frequently encountered in family finance and around which many a new plan of living has had to be built. Current expenses for food, clothing, and advancement can be adjusted, but past follies demand payment. Where family finances are badly snarled, one must bear in mind that the present state of affairs is a culmination of months or years of mismanagement, and that a long time plan of cure is necessary. Where the income is adequate and not endangered by ill health or possible unemployment, it is possible, after viewing the figures from all angles, to make a budget which will eventually clear up the difficulties or at least carry the family along until it can dispose of whatever is causing the trouble. The new plan may be put into operation at once, but the family must understand that only time can show results, and must keep in mind the objective of the budget, rather than its limitations.

Economic security and stability are the desire of the average family. The financial experiences and practices of others, as expressed in the "safe guide" figures, function for it only insofar as these can be adapted to give a feeling of security or to aid in financial progress and accomplishment. If expensive illnesses, accidents, periods of unemployment, and other woes could be eliminated from the experience of the average family, "safe guide" figures might be considered as genuine standards and be used to lead the family to economic success; but as that is not the case, the ready-made budget must be altered according to the needs

of each family.

The resulting "made-to-order" budget for the specific family must provide for liquidating debts, for adding to savings, for building a reserve for large known expenses, and for meeting present needs. Even then it must not be looked upon as absolutely rigid, rather it must be flexible enough to withstand the shocks which are the inevitable lot of family finance because in them the human element must always play so large a part.

### Possibilities of Budgets

Most people have lived like the Browns and Joneses and the rest of their friends—they have let a lot of money slip through their fingers first and last and cannot see that they have very much to show for it except a good time. Of course, that is something but the trouble is that they have been trying to make it everything—or nearly everything. What they need to do is to be more selective in their spending.

The first move each family should take is to find out just where it stands financially, for it would be foolish to start going somewhere without knowing where you are starting. On the upper half of a sheet of paper it might be well to assemble your assets. These might consist of your balance in the savings bank, checking account balance, stocks and bonds at their current market value, cash surrender value of life insurance policies, estimate of what you could get out of your car, a guess at the amount your household goods would yield if you had to sell them, value of properties, and any other assets that you might have.

On the lower half of the sheet list the liabilities, such as unpaid bills, notes or mortgages, installments still due, and so forth. Then compare the two sets of figures and see where you stand. Probably you will find, if you are like most people, that you do not stand very high and that an emergency could easily wipe that out.

Probably one of the first goals that each family should aim at is an emergency fund, of let's say five hundred dollars to a thousand dollars. This of course cannot be done all at once, but may require a period of from three to five years. Five hundred dollars in five years would mean two dollars a week all during that time, and the best way to accomplish this type of fund is to religiously put away the two dollars at the end of each week and not put it off until you have nothing accumulated by the end of the five years. This naturally will necessitate the reduction of other expenses, such as living costs, rent, and miscellaneous items that, unless watched, can consume dimes, quarters, and even dollars so appallingly.

After one goal is accomplished there might be many more which have been well thought out and not arrived at on the spur of the moment. The truly thrifty person is not one who saves purposely, but one who spends purposefully with a "prize" in view.

Even families with comparatively small incomes can play the selective spending game. The prizes they choose will have to be modest. Small comforts may have to be sacrificed in order to win those prizes, but as long as the family is able and willing to do without something for which it is already spending money it can play the game.

Thrift does not begin and end with the mere hoarding of dollars. Rather, the essence of thrift is the intelligent use of money—it is a sane spending rather than the non-spending. To achieve our prizes or goals we follow a plan similar to installment buying—so much each month—without all the hazards, hardships, and high rates of interest involved in installment buying.

**Attention Teachers: Write for special rates on *Consumers' Digest* for classroom use in lots of ten or more.**

CONSUMERS' RESEARCH is now able to say that, all advertising claims to the contrary, a golfer's score is determined primarily by his skill and positively not to any significant extent by what he pays for his golf balls.

Probably most golfers select a golf ball on the basis of "click," "putting feel," or other equally intangible factor which advertising would have golfers believe can be obtained in greater measure as one pays more for a ball, and particularly as one buys *Blank's* ball in preference to *Blenk's, Blink's, Blonk's,* or *Blunk's.* Perhaps some players choose balls in order to obtain "Roto-Active Fly-Wheel Action," a "talented golf ball," or the "sweetest ball that ever clicked off a club head," or perhaps it is only a high-priced autograph that is wanted.

Advertising writers, of course, reserve the most marvelous and exclusive constructions for the most expensive balls, and they wouldn't for the world have you believe that the best golf score is possible when using a ball costing under seventy-five cents or a dollar. Most manufacturers make a thirty-five-cent ball "that is outstanding in its price range," but "for golfers who are intent on getting the most out of their game" they offer "top-quality seventy-five cent balls."

There is much mystery about the details of construction of golf balls. Their centers or cores, for example, are sometimes hard, sometimes liquid, sometimes a paste. The liquid may be honey or some "secret" substance peculiar to the

manufacturer. Paste and liquid centers have the advantage of providing a means by which the windings can be put on under a higher tension intended to produce a livelier ball. This is done by freezing the center and winding rubber thread on the frozen core to a tension determined by the strength of the thread. Later, when the center thaws, the tension is increased by the expansion taking place as the core changes from the frozen state to the liquid state, making the ball somewhat harder and more elastic in the zones near the core. Sometimes extra internal pressure and tightness are provided by putting into the ball, at the time of making, "dry ice" (frozen carbon dioxide), which turns into gas under pressure immediately afterwards.

The most effective cover is the thinnest and toughest—characteristics which to some extent are mutually opposed. By test, however, it was found that a thick cover was not necessarily durable nor was a thin cover necessarily fragile. Prolonged immersion in water imparts a peculiar stonelike quality to golf balls. Repainted balls offered for sale by the caddy may for this reason be quite worthless.

Consumers' Research has tested a dozen well-known brands of golf balls ranging in price from twenty-one cents to a dollar. They were weighed and measured, compared for distance in driving, for accuracy of rolling and putting, and were tested for durability of cover. The most important, and the only consistent, difference found between a good low-priced and a good high-priced ball was the obvious one of price. No difference revealed by carefully conducted test measurements would indicate that the higher-priced ball would have longer life or would be likely to give the golfer a lower score than the low-priced ball, in general. In fact, a thirty-five-cent ball was one of the best of all tested for distance, accuracy of putting, and durability of cover. And besides it had the *Geer* patented cover "which due to the cost of manufacture," according to an advertisement of another brand, "can be provided only on balls sell-

ing at 50c or more." A much-advertised dollar ball, on the other hand, which was claimed to have a thin cover "as tough as the toughest" was found by test to have a cover which was the weakest in resisting hard use.

### Recommended

*Airway* (Crawford Macgregor and Canby Co., Dayton, Ohio) 35c. Medium-hard rubber center. Good durability.

*Hol-Hi K28* (Wilson Sporting Goods Co., Chicago) 75c. Liquid center.

*Medalist* "Clipper," Cat. No. 860—4167 (Distrib. Montgomery Ward & Co.) 35c plus postage. Soft rubber center. Had *Geer* patented cover. Good for distance, accuracy of putting, and durability.

*North British 50* (North British Rubber Co., Ltd., Castle Mills, Edinburgh) 50c. Liquid center. Excellent durability and putting accuracy.

*Peau Doux* (Distrib. Walgreen Drug Stores) 21c. Medium-hard rubber center. Average for distance and putting accuracy. Good durability.

*Royal Blue* (U. S. Rubber Products, Inc., Passaic, N. J.) 75c. Liquid center.

*Silver King* (Distrib. John Wanamaker, Inc., Philadelphia) 75c. Liquid center. Good durability.

### Qualified Recommendation

*Aristo,* Cat. No. 6—910 (Distrib. Sears, Roebuck & Co.) Three for $1.10 plus postage. Liquid center.

*Olympic* (A. G. Spalding & Bros., 105 Nassau St., N.Y.C.) 35c. Medium-hard rubber center. Good for distance.

**For Tennis Players: A report of tests on tennis balls appeared in the August Issue of *Consumers' Digest.***

SINCE it is estimated that women buy, or advise men in buying, over two-thirds of the men's clothing purchased, it seems advisable to study carefully the values for money spent. As with women's clothing, it is true that the lowest-priced garment is not always the best bargain. There are many factors to consider in judging the values of men's clothing. Although different garments should meet different specifications, in general they should be judged for colorfastness, workmanship in finishing, wearing qualities, ample fit, laundering qualities, becomingness, and suitability of design and material for purpose intended. It might be well to consider the individual articles of clothing.

### Shirts

Shirts are purchased according to sleeve and neck measure. The sleeve measurement is taken from the center back at the base of the neck around the elbow to the wrist. It is quite essential that this measurement be accurate as it provides for back width as well as sleeve length. The neck measurement is taken snugly around the *base* of the neck. Neck measures run from 14 inches to 18 inches and higher and sleeve measures from 33 inches to 36 inches. In buying shirts, it is especially important to consider both of these measurements. Good shirting is finely woven and is not filled with starch or other sizing. It is fully shrunk so that no provisions in size need be made in allowing for shrink-

Brieflet No. 386, issued by the Extension Service of the College of Agriculture, University of Vermont, Burlington, March, 1934

age. The difference between a good shirt of standard grade and one of inferior quality is also shown in the cut. In comparing the two grades of the same size, it has been found that the standard shirts may include up to five-sixths of a yard more material. The difference comes in the fullness of cut throughout the garment. A higher grade shirt is apt to have a better fitting collar and is more carefully finished throughout.

### Underwear

Wearing qualities and comfort are the main factors to insure in the purchase of underwear. The average woman often lacks information to buy according to size. A snug fit in underwear garment may be the main cause for its wearing poorly—of course, quality of material and fullness of cut according to size also determine value. In comparing two pairs of shorts, both of waist measure 34 inches, it was found that the standard cut garment contained about one-third of a yard more material than the substandard grade. This would materially affect the length of wear as the scant garment would lack reinforcement in places receiving strain. Information on measurements and sizes may be of value to the consumer.

*Union suits* come according to trunk, chest, and in-seam measure. The trunk measure is taken from right shoulder through crotch and back to shoulder. Other measurements should be in proportion, thus:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Trunk | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 |
| Chest | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 |
| In-seam | 27 | 28 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |

The above proportions are found in "regular"-sized garments which are designed for the tall man.

"Shorts" in union suits are cut one size larger in the chest and have sleeves two inches, and in-seams three inches shorter. These are especially designed for the heavy, shorter man.

"Three-quarters" come with in-seams four inches shorter than regulars. These are designed for the very short man.

*Light Weight* or *Summer Style*—B.V.D. type with no sleeves and no legs—are sized by chest measure taken directly under arms.

*Shirt and Short Combinations*—Shirts are sized by chest measure taken directly under arms. Shorts are sized by waist measure.

### Sleeping Garments

Pajamas and night shirts should be purchased for a full fit. Good qualities of cotton materials will come preshrunk, but it is practically impossible to get outing flannel which will not shrink in home laundering. Allowance should be made for shrinkage when the garment is purchased.

*Pajamas* come sized A, B, C, and D. These letters correspond to the following chest measures.

| | |
|---|---|
| A—34-36 | C—42-44 |
| B—38-40 | D—46 |

*Night shirts* are sized according to neck measure running from 14 to 18.

### Hose

Wearing qualities of hose are determined by quality of yarn, fashioning, fit, and reinforcement. Quality hose are well shaped and have large reinforced heels and toes and have a reinforcement throughout the foot. When laundered they will keep their shape. In buying hose for boys and men, the size of shoe worn may be a guide as to the size of hose to purchase.

| *Age* | *Shoe* | *Hose* |
|---|---|---|
| 1—1½ | 2—3 | 5 |
| 2—2½ | 4—5 | 5½ |
| 3—4 | 6—7 | 6 |
| 4—5 | 8—9 | 6½ |

| | | |
|---|---|---|
| 6—7 | 10—11 | 7 |
| 8—9 | 12—13 | 7½ |
| 10—11 | 1—2 | 8 |
| | 2—3 | 8½ |
| | 3½—4½ | 9 |
| | 5—6 | 9½ |
| | 6—7 | 10 |
| | 7—8 | 10½ |
| | 9—10 | 11 |
| | 10—11 | 11½ |

### Shoes

As shoes are one of the expensive articles of clothing, their selection should be made carefully. Shoes should be of good leather, conservative color and style, and of comfortable fit. They should be sufficiently long to prevent the tips from pressing the toes. They should be tried in a standing position so that the foot is spread as in walking. A straight inner line is better for the foot than one which curves the toes. Shoes of poor quality, though they may appear satisfactory when new, may not give the best returns for money spent.

### Hats

The quality of men's hats purchased are largely decided by frequency of wear. For the man who is wearing a hat for business daily, a good quality fur felt hat which will hold its shape, wear well, and clean easily is a good investment. For the man who wears a hat for dress only, a less expensive wool felt hat may be satisfactory. As there is no strain nor heavy wear on a hat, the care frequently determines the length of life which can be expected from it. If carefully stored and frequently brushed and protected against unfavorable weather, a reasonably good hat can be expected to give satisfaction.

### Suits and Coats

Selection of men's suits is a matter of fit, workmanship, and quality of material. Fit means freedom from wrinkles because of bagginess, freedom from strain because of lack of fullness, correct waist line for trousers, correct length of coat, sleeves and trousers. In workmanship, the stitching of seams, finishing, and type of linings and reinforcements are important. The kind of work a man does determines the kind of materials he selects.

Woolen materials are made of loosely twisted yarns. The material is soft and holds a press only moderately well. Woolen material is most satisfactory in sports clothes in materials as homespuns, tweeds, saxonies, and cassimeres. Worsteds are made from tightly twisted yarns and feel harsher than woolens. They hold a press better. Twill weaves are often used in worsted materials as serge, diagonals, and Bedford cords. Worsted materials are exceptionally long wearing but shine more easily than woolens in wearing and pressing. Shoddy is the chief cause of dissatisfaction that may exist in woolens. The labeling of 100 per cent pure wool is little protection to the consumer as it may include reworked wool (shoddy). A sign of quality yarn is given in the label of 100 per cent new wool or 100 per cent virgin wool.

### Color in Men's Clothes

From *Apparel Arts*' "Fabrics & Fashions"—"Good taste in dress is anything but a trivial matter and fashions for men are every bit as important as they are for women. Certainly no man need feel that there is anything effeminate or essentially unbusinesslike about devoting a little care, thought and study to the selection of his clothes."

The art of color in men's dress is in bringing out the best that the complexion, hair, and eye coloring has to offer and minimizing the conspicuousness of less attractive features.

Consider the blond man first. His general appearance, looking at him purely from a standpoint of color values, is one of general monotony. His skin is light, his hair too. His eyes are usually less distinctly colored than those of his brunette companion. Therefore, in order to relieve this somewhat, it is important that he secure a great deal of contrast in his dress. Contrast is much more acceptable than harmony with all types but especially so with the fair-haired, fair-complexioned person. As to the color of the suit itself, it is generally better to avoid very light grays and light tans. These tend to give an all over sameness which is uninteresting. His choice is better in dark blue, medium gray, oxford, and some deep shades of brown. For the man with a sallow complexion it is necessary to try to offset the yellowness and strengthen the red in the skin. Neutral blues (not purple blue), dark dull gray, and deep shades of brown all seem to give a creamier apearance to the skin. The man with a ruddy complexion has a wider choice of colors as there is little chance of minimizing the red in his complexion. However, bright red neckties might make him look florid.

The gray-haired man has a range of color similar to the blond man but he can wear a wider variety of shades of gray. His best choices would be broken-textured dark blue, oxford, and medium or light gray. In general, unless he is unusually ruddy, brown and tan are least becoming.

For the sandy-haired and light-complexioned person, very deep shades of brown, medium gray and dark gray, and blue are most easily worn.

The dark-haired, brown-eyed man wears the browns, tans, medium and light grays. Navy and oxford are generally less becoming to him.

The red-haired, pale-complexioned person is most becoming in rich browns, some medium shades of tans, light, medium, and dark gray.

The composite type with brown hair and blue eyes has the

broadest choice of colors. Deep browns give a richness of coloring to the hair. Blue accents the eye coloring. Tans and grays are contrasting enough to be interesting.

### How to Combine Colors in Furnishings and Accessories

It is practically impossible in recommending color combinations to give hard and fast rules as it would defeat the whole purpose of color in clothing—individuality and variety. However, it is possible to generalize rather broadly. Consider the suit, shirt, and tie as a trio which have a definite color relationship to one another with the base color, the one upon which to build the color scheme, that of the suit. Now, either the shirt or the tie is best in definite contrast with the suit color. If the shirt shade is distinctly lighter than the shade of the same color in the suit, the contrast may be secured in the tie alone. Such an example may be a dark brown suit, light tan shirt, and contrast secured by a green or maroon tie. At any rate it is best for the man who has little appreciation of color to have either shirt or tie in definite contrast, while the one which harmonizes is a shade a number of tones away from the suit color. However, this rule although safe need not always be followed, and some interesting combinations of these colors can be effected.

The following are conservative combinations which are harmonious (many more daring combinations are possible for sports wear):

| *Suit* | *Shirt* | *Tie* |
|---|---|---|
| Blue | White | Red and gray |
| | Blue and white | Maroon |
| | Light tan | Blue and red |
| | Light blue | Blue and white |
| Brown | Tan | Green or maroon |
| | White | Brown and tan |

| | | |
|---|---|---|
| | Green and white | Green and tan |
| | Red and white | Brown and tan |
| Gray | Blue | Red and blue |
| | Green | Gray and blue |
| | Red and white | Red and gray |
| | White | Light and dark green |

For oxford, the same combinations as for gray are good, but brighter colors in ties are often needed in order to give life to the outfit. Combinations given for the brown suit apply to the tan suit except that more colorful shirts and ties may be used with tan as it is a sports color. Blue shirts may be worn with tan suits though they are not as good with brown suits.

In harmonizing hats, overcoats, and shoes to the suit, shirt and tie combinations, it is well to remember for dress wear that gray hats and blue coats, gray hats and oxford overcoats combine well with blue, gray, and oxford suits; also that brown overcoats and tan hats harmonize with brown and tan suits. Tan and gray or brown and gray are combined only in the sports outfit as brown and gray are combined only in the high fashion woman's outfit, and the shades are then chosen very carefully in order to give a pleasing effect. Blue and brown are also difficult to combine harmoniously. The two are not generally worn together except for high fashion sports wear.

For dress wear, black shoes are worn with oxford, gray, and blue suits. Brown shoes are worn with tan and brown suits and with some shades of gray.

Poor combinations of textures can sometimes spoil the effect of good color choice. A checked suit, checked shirt, and spotted tie give a feeling of confusion of design as does a speckled suit with a speckled or finely spotted tie. It is well to consider that a combination of plain and fancy pattern gives a more pleasing effect than all pattern or all plainness. The speckled suit would be more effective with a plain shirt and a striped tie.

If each article of clothing is considered as a part of an entire costume in regard to design and color, the effect will be a harmonious picture rather than an incoherent accumulation.

## The Next To The Last Straw

Nothing is safe or sacred from the mad urge of modernity! That which the master gastronomists of the world claimed would never be done, because of the obvious absence of any necessity for so doing, has been done right under their very noses.

We hereby publicly denounce the impudicity of the act and as lagniappe kick in a long sibilant razz to the perpetrators of the iconoclastic gesture. Fie on them!

Further than that; we question their right to sacrifice a great and typical American custom on the altar of greed, to place filthy lucre above the principles of alimentary liberty, to tamper with the cacogastric prerogatives of America's vast army of valetudinarians, to arbitrarily deprive the ubiquitous hypochondriac of his "ace in the hole", to resort to substitution which knocks the last props from beneath the vacillating legs of our body of neurasthenics.

That all may hear we shout "Fiat Justitia, Ruat Caelum!" and other things which would not look well in print.

Listen well and ponder on the consequences attendant upon the presumptious action of our modern food improvers—They have gone and CANNED THE PRUNE.

The one and only food article which the gastronomists, the epicures and the pernickety bon-vivants classified as being immune from the canny desecration of comestibles by the "food-improvers" and vitamongers. What next?, again we ask, What next?

Think of it! The prune, nucleus of a million boarding house jeu-de-mots, the prune, mollescent media for millions of medicinally minded mortals, the prune, one of the very few profit-showing items on the menus of American gulp-and-gobble jernts and the dainty, delicious dessert of the devotees of the dulcifluous diet decreed by "Doc" to be a beater of dyspepsia and visceral static.

What matters it now whether the Supreme Court is reduced to three or packed to forty three? What matters it if Japan takes Peiping, Mukden or Hoods Sarsaparilla? What matters it if Joe Louis licks Schmelling or an ice cream lollipop?

There are more important things to claim the attention of the citizens of this great country.

They have canned the prune, and unless the public stands by and raises a most strenuous yelp of protest they are liable to start canning potatoes and then the world will be in a terrible mess.

—Roscoe Lawrence in *Easton Plain Dealer.*

# A STUDY OF KEROSENE AND GASOLINE LAMPS

Oil lamps may be divided into two classes: those in which the light comes from an open flame and those of the more modern type in which the light is given out by a glowing mantle which is heated by a flame. The advantages of lamps of the former type are mainly in their simplicity and dependability of operation and low initial cost. They are reliable, but inefficient. While not good for reading, kerosene lamps of the older types are nevertheless convenient for use in bedrooms or in other places where they have the advantage of movableness and ease of operation, and the fact that they can be burned very low whenever desired, at very small cost for fuel.

Kerosene lamps should not be used by, or be available for the use of, persons unskilled in their handling and unaware of the kerosene fire hazard, in attics or basements containing wastepaper and other highly combustible materials, or where there is an exceptional fire hazard for any other reason.

For reading purposes, mantle lamps will be found much superior, but they will have certain difficulties in care and maintenance that are not present with the less efficient yellow-flame lamps. Because of the intense brilliancy of the mantle (large amount of light given out per unit area of the light source), mantle lamps should never be used without a shade. The old yellow-flame kerosene lamps, on the other hand, can be safely used with the flame directly visible.

The gasoline pressure lamps are the most efficient and give the greatest total amount of light, but they have several disadvantages, the most serious of which is some degree of fire and explosion hazard; a continuous hissing noise produced by these lamps is also annoying to many.

A clear space of at least two feet should be allowed above chimney-type lamps that have, or may at any time have, a

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good-sized flame. Kerosene lamp users often forget that a lamp even a foot away from the ceiling may set fire to woodwork at the ceiling level or behind the plaster. Care needs also to be taken that no window shade, curtain, or drape is so located in relation to the lamp that it may blow across the chimney at times, due to a draft or sudden wind.

The most serious accident likely to occur in the use of an oil lamp is in the event of tipping or dropping the lamp while lighted, or overturning the table on which it rests. The fount, that part which holds the fuel, should be made of metal so that it will not break and spill its contents in case it is dropped or struck with a hard object. It should be placed low, preferably in the base of the lamp.

A gasoline lamp should not be filled in a room where there is an open flame, a cigarette, pipe, or cigar burning, or a stove in operation. Valuable hints are given in the National Bureau of Standards Circular No. 397, "Safety for the Household," and these should be noted carefully in handling kerosene, which, it should be remembered, acts very much like gasoline when overheated.

Every user of a kerosene lamp, stove, or burner of any type must allow for the fact that, as it heats up, its condition will change and the vigor of its combustion increase. Note especially, therefore, the action of any lamp or burner during the first ten or fifteen minutes of its operation, unless it is started with a low flame. Never turn the wick any higher than is necessary for the required amount of light.

It is important that in a round (cylindrical) wick lamp the wick should be at all points uniform and even, and that in a flat wick lamp the trimming of the wick should be such as to minimize the tendency to flare and smoke.

With special reference to the lamps designed for burning gasoline, note that leaded gasoline must never be used. If it is used by mistake in a gasoline mantle lamp, it probably will cause the lamp to clog and go out in several hours' time. Also, the intensity will fall off gradually and the light will

have a yellowish cast, but before these indications occur, it will have gravely menaced the health of everyone in the room. Positively, do not use the lamp if, in any circumstances, it is impossible to obtain gasoline which is of a certainty free from lead. And allow for the fact that filling station attendants do not always know whether gasoline is lead-free, and sometimes when they do know, do not correctly represent the situation to the customer.

With gasoline lamps, one cannot guarantee that a leak would not occur during use of the lamps under pressure, and such a leak would unquestionably be dangerous.

One mail-order house mantle kerosene lamp, not reported in the listings which follow, turned out to be very unsatisfactory. It was just too critical in operation to be practical, and the mantle, being very large, was excessively delicate and fragile. It is interesting that, although important parts of the lamp were made in Germany, the advertisement failed to give notice of this fact.

### Qualified Recommendation

*Rochester*, Cat. No. 11—07717 (Distrib. Sears, Roebuck & Co.) About $2.50 plus postage.
*Central Draft*, Cat. No. 486—7330 (Distrib. Montgomery Ward & Co.) $2.49 plus postage. Kerosene, round wick type. These lamps are identical as to their working parts. Their light output and also their efficiency are much lower than are those of lamps of the mantle type, while their operating costs (not including an allowance for mantle replacement, which may come to a considerable amount) is almost as great as the *Coleman* lamp, which gives over *five* times as much light; but they are reliable, simple to operate and to care for, sturdy as to mechanism, and will give good service for years without requiring expert manipulation or attention at any time. Light output equivalent only to that of one 20-watt electric bulb, which is a long way from being "ideal" for reading or

sewing, though such a claim was made. Fire hazard, if lamp is tipped, is great since kerosene can run out readily.

*Coleman DeLuxe,* Model No. 150 R (Coleman Lamp & Stove Co., Wichita, Kans.) $7.95. Gasoline pressure two-mantle type. Total light output far above that of any of the other lamps tested, being equal to that of an electric bulb consuming 83 watts, or slightly less than that of three 40-watt bulbs. The cost of operation per hour is somewhat higher than in other lamps, but cost per unit of light output is lowest of any lamp tested. Requires pumping every two hours. Some hissing noise, but not as much as from *Naturalite* lamp. Cannot be filled while lighted; it would also appear that an accident causing momentary overturning of the lamp while lighted would not result in spillage of the fuel.

*Aladdin,* Model B (The Mantle Lamp Co. of America, Inc., 609 W. Lake St., Chicago) $7.20. *Whip-O-Lite* shade. Kerosene wick and mantle type. Light output slightly greater than that from one 40-watt electric bulb. Slightly more light at somewhat higher operating cost per hour than in the *Naturalite* gasoline lamp. Silent in operation. Requires no pumping, but wick must be adjusted occasionally, and the wick is not easy to maintain properly. The lamp is especially susceptible to going into a smoking condition suddenly (as are all mantle-type kerosene lamps using a wick). Where a kerosene lamp of maximum efficiency and economy is required, however, and careful attention can be assured, this is a reliable brand and type. Mantle well shaped and supported for good durability and resistance to shock and jars. Glass fount increases hazard in case lamp is dropped. Kerosene leaks out rapidly if lamp is tipped.

*Naturalite,* Cat. No. 11—07702 (Distrib. Sears, Roebuck & Co.) $3.89 plus postage. Gasoline pressure two-mantle type. Requires pumping every one and one-half to two hours. Considerable hissing noise during operation. The

sample tested flickered continually in a manner that would prove very annoying. This could be reduced by lowering the pressure, but only at a considerable sacrifice in the light output. Two large matches burning together required for lighting. Lack of protection for mantles from drafts or mechanical injury will probably result in frequent breakage.

### We Are Flattered by the "Left"

Having survived the literal stones of communist-led mobs for a period of many weeks, we feel able to endure the verbal brick-bats which frequently come our way from the same source. We hope our readers will enjoy this sample missive as much as we did.

To the Highly Honorable and Omniscient Editors of the CONSUMERS DIGEST.

Listen you guys:

Will you please tell me just what has called for that little sally in your July 1937 issue titled "Communism and Consumers."

Could it be perchance that you wish to merit the favor and good graces of the also honorable knights of capitalism such as Ford, Duponts, Morgans and other gangsters?

Listen you fellers: They don't want your trash. Don't peddle your wares looking in their direction. Deliver them tear gases and sawed off shotguns, tanks and poison gas, maybe they will look at you. But this way won't even spit at you. Because many are their servants and they are lousy with all sorts of prostitutes.

Gentlemen, you will excuse my acerb remarks, but reading in a magazine of your type such uncalled for, rotten, false quotations as the one above referred to makes a devil even out of a saint. And the underwriter is no saint. . . . .

Listen you buzzards, you vultures. Even if socialism will never, never reach or enable the masses to reach that so-called standard of living which allegedly is prevailing in the United States, but will only succeed to eliminate forever war from the face of Earth, even then it would deserve the undying love and respect of every civilized person. Of course your capitalist infested brains will never rise to comprehend this. You will never understand its significance. Your eyes will be glued until your death to the omnipotent dollar. And will curry the favor of the Liberty League. But the millions and hundreds of millions whom capitalism doom or will doom to death, horrible death, comprehend this and will some nice day sweep capitalism off the earth together with all its decadent champions.

HENRY SMITH, Cleveland.

WITH the exception of the development of the Noiseless, there has not been any important improvement in office-size typewriters in the past thirty or forty years. In reading advertisements, which are always heralding tremendous innovations, the consumer should recognize that these are actually unimportant. Sales departments have a practice of whooping up wholly trifling additions or alterations as revolutionary changes, and the consumer must on this account learn to discount typewriter advertising heavily. An exception as to absence of far-reaching change is in the electric models, which in one case have been a total failure and in another are regarded as not worth serious consideration for any ordinary use.

Typewriter manufacturers usually offer to leave a machine in the home or office for a trial of a week or ten days before purchase; full advantage should always be taken of this trial period to give the machine varied and extensive use. Such a testing-out period is especially important with portables, and with early machines of a new model. Model numbers on typewriters are unsafe for guidance, since a typewriter with a given number may be extensively different in details from an earlier one of the same class.

If special characters are desired, such as carat, paragraph, brackets, mathematical, engineering, or other technical symbols, foreign language accents, etc., these can be furnished in place of fractions and a few of the usual upper-case char-

From Consumers' Research *Bulletin*, June, 1937

acters that may for some purposes be dispensed with. There is no extra charge for key substitutions on a new machine (barring perhaps the cheaper portables) if specified at time of ordering. If such substitutions need, however, to be made subsequently, a well-equipped typewriter repair shop can make the necessary changes of both type and corresponding keyboard symbols. The purchaser may be saved trouble in designing his own keyboard by selecting one of the special keyboards offered by manufacturers out of their decades of experience with world-wide demand. Scores of these have been worked out for foreign language (including Arabic, Hindustani, Greek, and Hebrew), literary, scientific, and other professional uses. Remington has probably the widest selection of keyboard characters and arrangements.

Where economy of space is essential, one may wish to consider one of the type faces which occupy even less space than elite. For example, Sans Serif (available on *Remington* Noiseless) is a beautifully clear type which spaces sixteen letters to the inch with eight writing lines to the vertical inch. (Pica usually spaces ten and elite twelve, horizontally, with six writing lines to the vertical inch.) Small Elite, of Royal, spaces twelve letters to the inch, horizontally, saving space by giving about seven and one-half writing lines to the vertical inch. Conversely, extra large type can be had, e.g., Bulletin Gothic of L. C. Smith, useful for display work in an institution, or Giant Primer of Underwood, suitable either for that or for the very short letters of society correspondence where an appearance of distinction is desired. (It is likely that a machine equipped with extra large type will have a shorter working life on account of the heavier jar and vibration incident to the longer jump of the carriage for each stroke. As a rule, however, not so much work is expected of it, so that this may not be a practical objection.)

The following table, showing the approximate number of characters accommodated, single space, in a rectangle

five inches wide by two inches high, gives an idea of the relative space economy of several of these different specimen types:

| | |
|---|---|
| Giant Primer* | 200 |
| Pica | 600 |
| Elite | 720 |
| Small Elite | 900 |
| Sans Serif | 1280 |

A variety of type styles is available, and booklets illustrating these and special keyboards can be obtained from the manufacturers on request.

Trade-in allowances are uniform and small even on relatively new machines; e.g., the maximum allowance is $40 no matter how new the machine. Discounts to teachers have been discontinued, but they may still obtain discounts by ordering through their schools, where the school authorities are disposed to accommodate in this way. School discounts apply to portables as well as regular models. They are figured after allowance has been made for a trade-in typewriter. The usual school discount is 10%+10%, or 19%. Students may rent machines at special rates; Remington offers students a rate of $3 a month ($4 is regular charge), or $7 for three months.

All prices quoted in this report are list prices as of April 1, 1937.

### Care, Servicing, Repairs

If a machine is properly used and cared for and has no latent mechanical defects, it should require servicing or repairs only rarely. An office model should, indeed, last a lifetime, but may need minor repairs in three to five years. Brushing and oiling as directed in instruction pamphlets will usually keep a standard machine in satisfactory order. A cover should always be kept on a machine when not in

* An *Underwood* portable equipped with Giant Primer can be obtained which is set for single and for one and one-half line space (instead of double). Some modern large machines can be adjusted to one and one-half line space in addition to the standard single, double, and triple.

use, to exclude dust, and eraser crumbs (rubber and emery) should not be allowed to accumulate. A pitted platen (cylinder) will throw the type out of alignment; therefore, purchase of a new platen when the one in use becomes hard or shows signs of pitting, is an economy. If the machine is otherwise in good condition, it will probably be worth while to pay what the typewriter manufacturer asks for a cylinder rather than to buy a cheaper one which may not be true.

The owner of an old machine will do well to become familiar with its accessible parts and when trouble develops in its operation, inspect the screws; a loosened screw may be responsible. This often saves the inconvenience and expense of a call for servicing. (However, the screws regulating the type-bar mechanism of a Noiseless are delicately adjusted and are not supposed to be tampered with.) Oiling (sparingly) may correct squeaks of parts which have moving contact.

It is suggested that if the consumer has occasion for any considerable servicing or repairs after expiration of the company's guarantee, he investigate local service shops. Sometimes competent mechanics outside regular agencies can be found who will service a machine satisfactorily and make minor repairs at a saving to the consumer. (But see note under *Noiseless Typewriters* on servicing of these machines.)

### Standard Typewriters

With the one exception noted, the typewriters listed in this classification, which embraces office-size machines with hammer-stroke type-bar mechanism, are known to be durable, but relative durability over a span of years has not adequately been determined. Reports on this score are conflicting. Each of these machines claims, and has, various more or less unique features and points of superiority, but the consumer may assume that unless for very exceptional applications these differentiating characteristics are insignificant rather than important or basic.

Listings are in alphabetical order.

### Recommended

*Royal 10.* $115.50. Shift key lifts type-basket (a desirable arrangement) to obtain upper-case characters. Light action; the company now calls machines of this model the "Quiet Royal." All *Royals* do excellent type-work and are easy to operate.

*L. C. Smith 8.* $115.50. Ball-bearing type bars. Quiet. The "feel" of the *L. C. Smith* action, which is light, is preferred by many doing rapid work; court reporters state that this make is used by a majority of the dictaphone operators transcribing testimony at high speed for long periods.

*Underwood 6.* $115.50. One of the most durable machines on the market. Touch is heavy (the machine is favored by many male operators—newspaper men and writers—in spite of, or because of, this feature); type-work, fair. Marginal stops in old-time position on a clearly visible, quickly accessible front scale is an outstanding convenience.

### Qualified Recommendation

*Remington 11.* $115.50. Lacks advantage of Noiseless feature but is otherwise identical in construction with *Remington Noiseless 10* selling for $135.50, and desirable for its general convenience. Action is much easier and quieter than Standard *Remington 16.* A new model, durability undetermined.

*Remington 16.* $115.50. All-around heavy-duty machine. Durability excellent; type-work fair. Marginal stops conveniently located on front scale. Heavy action, very noisy.

## Noiseless Typewriters—Office Models

(For Noiseless Portables, see *Portables*)

The "Noiseless" machine, which prints by pressure instead of a hammer-stroke, has come a long way. It is believed it may be the business machine of the future, superseding the "noisy" models much as the "visible" machines superseded the "blind" models, which are now extinct.

*Properly used,* Consumers' Research judges the Noiseless will be at least the equal of any standard machine, but for the purpose of these listings, "noiseless" and "standard" machines are not considered as strictly comparable. Some models of noiseless machines, because of jamming of type bars in the hands of an inexperienced operator, are not suitable for the unschooled typist with an erratic touch; nor will any Noiseless be preferred by people with a heavy touch (men especially). Before purchasing, be absolutely sure your technique is adaptable to a Noiseless machine; it is not for "hunt and peck" users.

For satisfactory carbon work, special carbon paper should be used (this does not apply to *L. C. Smith* "Silent"). Such carbon can be secured from the typewriter companies or the large stationers and costs no more than the standard type. Some may advantageously be purchased with the machine.

In interested quarters, it is held that the office models, as now made, need no more attention from the repairman than the average standard machine, but Consumers' Research is not yet in a position to confirm this observation. However, since these machines are, relatively, precision instruments, servicing should be done only by mechanics specially trained in that type. Any considerable amount of repairs, or rebuilding, is a factory job.

It is not at all certain that the first two machines following are comparable in durability with the first three machines in the Standard classification, but they are regarded as the best of the noiseless typewriters. Both of them are

believed to be unsurpassed for quietness, lightness of touch, beauty of work, and general convenience. Listings are in alphabetical order.

### Recommended

*Remington 10* Noiseless. $135.50. Difficulties with early machines of this model are now overcome.

*Underwood* Noiseless. $135.50. Made on the basis of Remington patents and believed to be similar to *Remington 10* in all important respects. *Underwood* machine judged equal to *Remington.*

### Qualified Recommendation

*Remington 6* Noiseless. $120.50. Manufacture discontinued; supply limited to those on hand at Remington agencies and to rebuilt machines. On account of tendency of type bars to jam, No. 6 requires an even touch. A *good* specimen in a rebuilt (costing around $76.50) would make an excellent buy; good ones are understood to be available.

*Remington 8* Noiseless, Desk Model. $79.50. Compromise between heavy office machine and portable—has same mechanism as *Remington 7* DeLuxe Noiseless Portable (which see, under *Portables*), but larger case, longer carriage—its standard platen takes paper 11 inches wide. May be had with carrying case for $6 extra; with carrying case, weighs somewhat over 21 pounds. Given a *Qualified Recommendation* because of the delicate coordinations involved in this new type mechanism in compact form and because experience with it does not yet warrant a higher rating.

*L. C. Smith* Silent. $135.50. Same mechanism as *L. C. Smith Standard 8.* Reduction in noise has been effected by, it is claimed, the use of a special platen with soft core and a special "dead" metal for case of machine. There is

a possibility that the silencing effect of this machine may not be permanent.

### Portable Typewriters

(including Noiseless portables)

There are now on the market serviceable portable models, sturdy, with many of the conveniences of standard office machines. However, judging from Consumers' Research's own experience with portables in the last few years, one should be pleasantly surprised if a small machines does not develop some annoying trouble in actual use. Sometimes difficuties are manifest even in the demonstration machines in the salesrooms. A portable typewriter should not be chosen because it is cheaper than a large machine, but only because it is deemed important to have a machine which can be moved about easily.

It is believed that the purchase especially of an older portable, or of a new "junior" model (intermediate between a well-equipped portable and a "stripped" machine) cannot be better than a severe compromise, which may occasionally be tolerable (price and expected limited extent of use considered). The absence of a backspacer, for instance, would alone be sufficient for non-recommendation of a junior portable. (No junior portables are here listed, as their lower price to the consumer can hardly compensate him for the disadvantages, mainly due to missing keyboard elements, which they involve. In a word, though considerably cheaper, they do not represent good value unless a person is sure that he will not wish to resell the typewriter or use it over a long period of time.)

It is suggested that the prospective purchaser be on the lookout for the following defects which Consumers' Research has found in different modern portables when new or after a short period of operation: tendency to skip a space; undue or chronic tendency of type bars to jam, necessitating their separation by hand, and tendency to pile or

crowd; uneven left-hand margins (to test this, in typing several lines operate line-space lever rapidly, pulling carriage back hard, in alternation with drawing it back at only moderate speed); failure, sometimes, of left marginal stop to stop the carriage at all; automatic ribbon reverse which doesn't reverse automatically *both* ways; paper slipping when rolled back on carriage; paper not holding firmly when nearing bottom edge, a particularly annoying defect; faulty alignment, i.e., tendency of certain characters to write above or below the line, or crooked (to examine alignment, use especially the keys to extreme left and right—a good test word is "lazy"); tendency of upper-case characters, when obtained by using shift key, to appear a trifle above the line. You may not succeed in finding a perfect portable, but at least you should avoid getting one that has too many of these defects, or has any one of them seriously accentuated. Some may be corrected, permanently, by a competent mechanic; others may be irremediable. As to portables, Consumers' Research cannot at present confidently advise, with regard to any model, that a particular machine in that model will be free from all possible defects. The percentage of unaccountable "lemons" is higher in portables than in standard models.

Noiseless portables sacrifice sturdiness for noiselessness. Repair bill after expiration of the guarantee period may be high. Of the newest and best Noiseless portables, it has not been demonstrated that they have arrived at the standards of the office Noiseless machines. The recommendations of Noiseless portables should be read with that present qualification in mind.

Each of the major companies makes a portable which is in general similar to its $64.50 model, minus tabulators and one or two other convenience features, and selling for $10 less. Remington offers the widest variety in portables.

Carrying cases are included in the prices quoted unless noted to the contrary.

Listings are in alphabetical order.

### Recommended

*Remington Rand 1.* $64.50. Uses semi-hammer stroke (non-noiseless) but otherwise same mechanism as *Remington 7* and *8,* which are Noiseless. Fine letterpress, yielding better appearance at the hands of an unskilled operator than does a Noiseless portable. Practically impossible to jam type.

*Royal* De Luxe. $64.50. The best portable that Royal makes. Quiet. In general, satisfactory as to convenience features, durability, and quality of work.

*Smith-Corona* Sterling. $64.50. One of the sturdiest portables on the market. Easy to operate. Quiet.

### Qualified Recommendation

*Remington 5.* $54.50. A sturdy hammer-stroke machine. But tendency of type to pile is marked. Lacks tabulators (as do other portables at this price) except for a "paragraph-key."

*Smith-Corona* Silent. $69.50. Same as *Smith-Corona* Sterling, selling for $64.50, except that noise has been reduced in the same manner as in *L. C. Smith* Silent. (See listing of latter machine under *Noiseless Typewriters;* same comments apply.)

*Underwood* Portable. $64.50. Paper bail much in way, otherwise a fair machine.

*The following machines are given a* Qualified Recommendation *because of the delicate coordinations involved in the production of this new type mechanism in compact, portable form and because experience with them does not yet warrant a higher rating.*

*Remington* Noiseless Portable. $69.50. Very quiet. No tabulators. Otherwise very little different from No. 7 (which see, below). Has same mechanism.

*Remington 7* De Luxe Noiseless. $73.50. Carrying case optional, $5 extra. Like No. *8* in mechanism; believed to require more even touch to obtain uniform impressions. In respect to convenience features, identical with *Remington Rand 1,* non-noiseless, selling for $64.50, case included. In all three of these machines, it is practically impossible to jam type in ordinary use.

*Remington 8* Noiseless. A semi-portable. (See *Noiseless Typewriters—Office Models.*) Would not be chosen by a person whose main interest was in travel use, unless the advantage of its 11-inch-long platen were a determining factor.

*Underwood* Noiseless Portable. $69.50. Substantially identical in construction to *Remington* Noiseless Portable at same price.

*Underwood 77* Noiseless. $73.50. Carrying case optional, $5 extra. Identical in construction to *Remington 7.*

### Rebuilt and Other Used Machines

In buying a secondhand machine, it is best, as a rule, to get a factory-rebuilt one with a one-year guarantee. These can be obtained direct from the manufacturer or from his secondhand subsidiary. Remington has no such subsidiary but their rebuilt machines are distributed by American Writing Machine Co. Subsidiaries for the other companies are: Royal, Regal Typewriter Co. (N.Y.C.); Underwood (Master Grade Label), Wholesale Typewriter Co. (N.Y. C.); L. C. Smith, Liberty Typewriter Co. (Philadelphia).

Satisfactory rebuilts can also be obtained from certain other large typewriter concerns which do a high-grade rebuilding job, such as Shipman Ward Co., International Typewriter Exchange, and Reliable Typewriter and Accounting Machine Co., all in Chicago. These concerns also buy genuine factory-rebuilts from the manufacturers. Avoid the "rebuilt" offered by the small dealer, who may have done merely a "lick and promise" job on it himself, unless certi-

fied as bought from a manufacturer's rebuilding plant.

"Demonstration" or shopworn machines, which the manufacturers occasionally have for sale, are generally a desirable purchase.

Buying a secondhand typewriter, especially one that is not factory rebuilt, is somewhat like buying a secondhand automobile, but involves lesser risks. The later models, usually, will be found satisfactory—the *Royal* with single glass side panel and especially with basket shift (type-basket, instead of carriage, lifted to obtain upper-case characters), *Remington* models *12* and *16, Underwood* Nos. *5* and *6*. Be sure to check on age by the serial number. All typewriter dealers use for reference a table of serial numbers by years, which should be shown willingly to customers; otherwise verify by writing the manufacturer.

In buying from an established, reputable, independent dealer, a good arrangement is to *rent* the machine you are interested in, with option to purchase, the *full* rental payments to be credited on the purchase of this—or any other machine in stock, if the machine first selected prove not satisfactory.

A highly coordinated machine such as the Noiseless, either full size or portable, should not be bought from a dealer with whom one is not acquainted or regarding whose responsibility there is any doubt, because such machines may give a degree of trouble through small and elusive defects—and those on the secondhand market are more apt to have such defects, inherent in their construction, than those recently produced.

**Lead Fatal to Sheep**

Death of 850 head out of a band of 1,000 sheep has been definitely traced to lead arsenate poisoning from foliage under sprayed trees by veterinarians and chemists of the Oregon Agricultural Experiment Station.

# FAIR TRADE AND THE CONSUMER

*By*

CHARLES S. WYAND

A FEW months ago the State of Washington passed a law which was ostensibly designed to maintain "fair-trade" practices in the sale of motor cars within the State. One part of this Washington law was to provide for a $50 tax on every new or used car brought into the State *under its own power* for purposes of resale. Although the tax on such "caravanned" cars was struck out before the law was enacted by the legislature, the basic reason for the proposed tax offers an excellent introduction to any discussion of the wave of so-called "fair-trade" legislation now sweeping the country.

According to the magazine, *Motor,* one of the trade journals of the automobile industry, the Washington tax was "designed chiefly to protect the new car market against caravanning by bootleggers who use the freight differential for discount purposes." The circumstances involved are these: Most motor car dealers have their new cars shipped to them either by rail or by truck. The freight charges are, of course, assessed on the ultimate consumer. Some automobile dealers, however, have sent their own men to the factory for the cars and in so doing have been able to reduce somewhat the delivery price to the buyer. Since such price reductions give the caravanning merchant a competitive advantage, his "legitimate" competitors join forces with rail and trucking interests to put an end to such "bootleg-

ging" in the name of "fair trade." The same "legitimate" merchants have also had laws passed striking at used-car dealers whose only crime lies in the fact that they buy used cars *in other states* at prices low enough to permit resale within the State of Washington far below the price of a new car. Since the new-car retailers suffer from such competition, the legislature of the State of Washington put a stop to such "unfair" trade too. The end result has been an increase in the volume of business done by the "legitimate" dealer—*and,* naturally, a sharp increase in the delivered price of cars. Automobile dealers in other states have watched the Washington State bill with interest and have already begun the process of enacting similar statutes in their own states—at the consumer's expense, of course.

Such producer-oriented legislation is not, of course, confined to the motor-car dealer. "Human nature being what it is," says *Business Week* editorially, "practically every line of business resents the activities of its competitors but demands a free hand for itself." Specific examples are not hard to find. Butter manufacturers long ago crippled the competition of oleomargarine by way of heavy taxation and restrictive legislation. Coal operators have sought for years to find means to tax natural gas and fuel oil out of effective competition. Independent grocers have long worked the same tactics against the chain store. Restaurant proprietors in some states have succeeded in heavily handicapping their drugstore competitors by requiring all drugstores operating lunch counters to "separate completely the lunch counter from the rest of the store by a partition."

Not all business-subsidy legislation is designated by the name, "fair-trade laws," but it is all alike in that the consumer ultimately pays the subsidy to the special business interest. To force restaurant proprietors to use more bacon, a bill was introduced into the Tennessee legislature requiring that "no slice of bacon offered for public sale shall be

shorter than 1⅞ inches nor less than 1/132* of an inch in thickness." The dairymen of Wisconsin forced a bill through their state legislature requiring all proprietors of public eating places to include a portion of cheese with every meal retailing for twenty-five cents or more. As a result, the traveler in Wisconsin will get (and pay for), if the law is enforced, cheese for breakfast, dinner, and supper whether he likes it or not. The extra cost to the consumer is nothing more or less than a crude, unjustifiable subsidy to the cheese industry of the state.

Another type of business subsidy occurs in New York State where the legislature recently passed a bill authorizing appropriation of $300,000 for a fourth annual State-sponsored "drink more milk" campaign. About a score of states operate what they are pleased to call "consumer services" or "marketing bureaus" which are nothing more than sales agencies ballyhooing the farm products of the states involved.

Other examples by the dozen could be cited. The important thing to observe, however, is that in all of the current agitation for "fair-trade" laws the business man is jockeying for a more favorable competitive position at the consumer's expense. And through it all, the state and federal governments have consistently chosen to ignore the real purpose of the movement and the clearly adverse effect of such legislation on the buying public. The reason for such action by agencies sworn to serve the *public's* interest was indicated years ago by Thorstein Veblen, one of the most brilliant economists the United States ever produced.

"Representative government," says Veblen, "means chiefly representation of business interests. The government commonly works in the interest of the business men with a fairly consistent singleness of purpose. And in its solicitude for the business men's interests it is borne out by current public sentiment, for there is a naïve, unquestioning

*This figure, possibly incorrect, is the one named in newspaper accounts.

persuasion abroad among the body of the people to the effect that, in some occult way, the material interests of the populace coincide with the pecuniary interests of those business men who live within the scope of the same set of governmental contrivances." (Veblen could not have been expected to predict that a new type of business such as the C. I. O. would ever become a State-sponsored, State-protected, and State-subsidized special interest group.) The error in the popular thesis behind "fair-trade" laws and the like lies, of course, in the illusion that, if General Electric or John L. Lewis's C. I. O. (for example) prospers, the people of the nation as a whole must reflect the benefits. F. J. Schlink aptly characterizes this the "shower of economic grace theory" and has clearly established the fact that specific private enterprises can and do profit at the expense of the consumer and without any effective advantage accruing to the public at large.

The term, "fair-trade" legislation, is therefore a misnomer. "Profitable-trade-for-some-people" legislation would be a more accurate way to describe such statutes, at least as they are being enacted today. Such laws seek nothing but a trading advantage for certain groups at the expense of competitors and the public at large. It is, of course, granted that demoralizing and economically unstable conditions prevail in many lines of commercial and industrial activity at the present time. It is equally true that something might well be done to reduce the attendant waste and duplication of effort and the use of loss-leader tactics in selling. But it seems patently true that most "fair-trade" laws, as they are actually written and applied, seek to strengthen the competitive position of specific enterprisers without offering an effective remedy for fundamental ills, and without attempting to safeguard the consumer's stake, present in every such situation.

It is important to note at this point, however, that no improvement of the situation will result from mere denun-

ciations of "legitimate" business. In an individualistic competitive system such as our own, the enterpriser can be expected to pursue his own ends in any legally permitted way at hand. The significant thing is that the legislatures of the nation are potentially, at least, as amenable to suggestions from the consumer as from the business men. But the consumer will have to learn that he is, and in his own best interest must remain, personally responsible for the preservation of his own welfare. It is absurd to expect men to reject their own interest to foster those of another. To put the matter in the simplest possible way: any rights the consumer enjoys must be voiced and fought for—not by the business man or by "the government," but by the consumer himself, personally and through such agencies as he shall choose to act for him on *consumer* questions.

Where "fair-trade" laws are passed at the consumer's expense, the consumer himself is in large measure to blame. Where, as in California last fall, the voters of a state are offered an opportunity to vote on "fair-trade" legislation in the form of specific propositions, there is no defense that can be made for the ignorance and apathy of the consumer and for the way in which he has allowed himself to be fooled by arguments and advertisements palpably based on misrepresentation and sophistry. For, within reasonable limits, we do have representative government, and usually those groups are represented which are best organized and therefore most articulate.

It seems fair to say, for example, that there is no justification for heavy taxation of chain stores, if the recent federal report on retail prices and profit margins is correct in its conclusions that chain stores sold a selected typical group of identical products at prices consistently lower than those charged by the less efficient independent stores. But if the ultimate buyer wants efficient production and distribution of goods, if he wants to prevent commercial groups from using the legislatures of the country for ends favoring

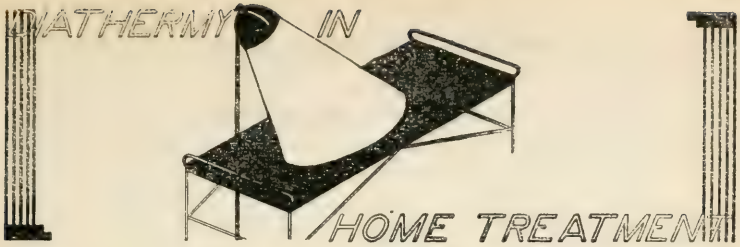
financial advantage to particular business groups, he must come to recognize and assume his obligations to himself as a consumer.

With but few exceptions, the "fair-trade" laws now being ground out of legislative hoppers are "fair" only in the sense that they are favorable to restricted business interests. But such legislation can be defeated if the consumer will take the time to learn precisely how such proposed statutes affect *his* welfare and that of other persons similarly situated. And on this particular point we have fully learned that official governmental expressions of the worth of any statute to the consumer should be accepted with caution. For in the few cases where responsible state, city, and federal government spokesmen attempt a statement of the significance of pending legislation, they all too frequently fall into the conventional blunder of assuming public and private interests to be identical.

The consumer must help himself. He can't afford to let either business men or governmental officials (however idealistic their expressions) do his thinking for him, for both will instinctively ignore his interests if those interests run counter to business and governmental prerogatives. And no better example of such betrayal can be found than that which appears in any "fair-trade" law which seeks to make a State virtue out of a commercial struggle for competitive advantage.

Government figures reveal that 68 cents of the consumer's dollar spent for twelve leading fruits and vegetables goes for distribution from farms to dining tables in city homes. A large part of this sum is for city distribution which government economists say is 'antiquated and inefficient."

—*New York Times*




By

ROBERT S. KRUSE, E. E.

To many people, home diathermy seems a magic relief from pain, especially rheumatic or after-injury pain. In special cases and with due regard to the opinion of a physician, it may be worth the price demanded. On the other hand, diathermy, instead of relieving pain, may aggravate it. Thus, such an ailment as an abscessed tooth may be seriously aggravated by ill-advised diathermy, whose effect is to increase circulation through the treated area. It must be remembered that pain is a symptom, not an ill in itself, and that mere suppression of pain by diathermy may serve to disguise a state requiring more fundamental treatment. Cancer might thus be made tolerable until too late to save the patient's life.

About a dozen research hospitals have been consulted and, with one exception, they express apprehension as to non-professional use of diathermy except with limited power. Several of them stated that its use, if any, should be "under close observation." However, it is fair to say that these experts are accustomed to the large-power artificial-fever use of the diathermy device, which certainly is a very severe business—almost a kill-or-cure proposition. To check this response from hospitals, several practitioners of good standing were interviewed—all men associated with large hospitals and familiar with the subject—and their average opinion was less emphatic, their caution being

related to the avoidance of diathermy in those cases where heat is dangerous.

The foregoing expert advices are enough to suggest that, for home-treatment, diathermy should be confined to things which clearly call for heat and cannot be harmed by heat in reasonable amount, and on condition that a physician's advice is sought in any case where there is doubt or where lengthy treatment is anticipated or encountered.

Don't experiment until you have tried a treatment under professional auspices, know that it has been of aid, and understand thoroughly what you must do and what you must avoid. Diathermy is heat—and a lot of it!

Radio advertising for the rental and sale of high-frequency "diathermy" equipment for home use has increased the interest in such treatments by laymen.

Physical trainers and athletic directors are increasingly using diathermy for the relief of injuries, often without the advice or supervision of a physician.

Some equipment used by non-professionals is purchased from responsible firms experienced in its manufacture, but, on the other hand, a great many equipments have been sold—and are being sold—by obscure firms and by individual radio men whose manufacturing methods and knowledge of the technical problems of diathermy equipment are likely to be slight.

"Diathermy," as here used, means the generation of heat inside the human body by passing through the body, or a portion of it, electrical currents of such high frequency that no sensation of electrical shock is noted. The advantage of this method of heat treatment is that it is not necessary to make the skin uncomfortably hot, and that a relatively deep penetration of the body tissues is possible.

Diathermy equipment consists principally of a generator of radio-frequency power resembling a rather primitive radio-telegraph transmitter working at (usually in the case of the devices which employ vacuum tubes) a

wave length in the region of three to thirty meters.

The radio-frequency power is applied to the patient by flexible leads to which are connected rubber insulator-pads (applied to the skin) or a heavily insulated cable coiled about the affected part.

Various makers attempt to create virtues for their particular devices by more or less contradictory claims as to the merits of "short" and "ultra short" wave lengths, the dividing line being approximately at ten meters. There is experience to show that heating effect is not always best for any one wave length and that bad effects not directly related to heat arise when working with wave lengths under five and one-half meters, e.g., temporary sterility is occasionally produced. A compromise for non-professional use is the fifteen- to thirty-meter region in which the apparatus is easily handled and where harmful effects (of the waves) are less likely to occur.

Arguments in favor of the rubber-covered pad and the rubber-covered cable, as against coils, are significant only when large powers are being used with the intent of raising the general body temperature [five to seven degrees to "burn out" such germs as gonococci]. All such treatments are clearly procedures for a hospital and skilled staff. For local treatments with low-power home-style equipment, either the pad or the coil is useful.

Use of two vacuum tubes instead of one for home-size equipment complicates the apparatus without giving, it is believed, any sufficient compensating advantages.

Although spark equipment is simple, inexpensive, and durable if well made, it is *decidedly not recommended.* Its interference with radio reception is very severe; the operation is slightly noisy; and ordinarily an objectionable type of "applicator" consisting of bare metal laid directly against the moistened or soaped skin must be used instead of the type of applicator used with an apparatus of the tube type, which does not even require removal of clothing.

Professional outfits are almost invariably of a two-tube type with a maximum output of 400 to 600 watts to permit the electrical-fever use previously mentioned. Except for large and impressive cabinets, they are similar to the "office" models found in gymnasium and similar use. Such powerful outfits should never be used except under medical advice.

A well-made portable device suited to home treatment (with proper advice) and capable of 100-watts output may cost in the neighborhood of $150. The vacuum tube, which costs $10 to $20 to replace, may fail early, but on the average will run one thousand hours or better. In some makes it is guaranteed for that time—if a record-of-use is shown. Failure of the other parts is exceptional. Before purchasing, however, have the device operated steadily for thirty minutes under full load, then remove from case, and feel for hot parts. The tube should be hot, the power transformer warm but not blistering, and everything else cool. Parts which run hotter than this fail early. Condensers especially must stay completely cool.

Absence of much skin-heating by diathermy machines easily permits the possibility of unintended but serious overdosage, especially as very few of the present diathermy devices give even an approximate idea of the total energy which is administered. There should be a time-switch to guard against forgetfulness, and there should be (though the machines are not so equipped!) a meter to show the power being transmitted to the patient. Meters customarily measure only the power fed to the tube, which is not very useful or informative, as efficiency changes widely with adjustments, and the power level may rise during treatment. Electrical shock hazard is a very real one with diathermy devices, as they embody a transformer which produces a voltage commonly between 1,000 and 1,500 for the home-size or 100-watt apparatus. In many designs this high voltage is kept from the patient only by the

insulation of the "applicators" and by a mica-insulated "stopping" condenser inside the device. If the mica condenser fails even partially, there is no protection except the rather uncertain sponge-rubber pad, and a *violent* and dangerous shock may result if the patient touches a radiator, telephone, a bed with a bed lamp, water pipe, etc. Since the best condensers do fail, without giving any indication of it, it is clearly necessary to maintain pads and cables in good order and to replace them if the rubber becomes damaged or dry.

Although it is possible to devise a diathermy outfit so designed that it will not injure the patient if a condenser fails, this is not done in present models available in the market for home use.

**Potassium Chlorate in Dentifrices**

Potassium chlorate has long been used as a constituent of mouth washes, gargles, dentifrices and extemporaneous preparations for oral conditions. One dentifrice widely sold in the United States contains more than 41 per cent of this ingredient. Reports have appeared of deaths occurring when large quantities of such a dentifrice were swallowed, although ordinary daily use of such products does not entail the swallowing of large amounts. Richardson (*J. Pharmacol. & Exper. Therap.*, 60:101, 1937) states that prolonged use of products containing potassium chlorate might result in sufficient absorption of chlorate to produce injurious effects on the blood, kidneys, liver and general health. He found the changes are due to the chlorate ion and not the potassium ion. Even though test animals survived larger amounts of potassium chlorate than is apt to be absorbed, Richardson points out that the traditional use of potassium chlorate in oral preparations lacks a rational or scientific basis. Richardson concludes that inasmuch as a salt action may be obtained with ordinary sodium chloride, potassium chloride has no real place in the cosmetic armentarium. —Journal of the American Dental Association

# tests for the QUALITY of EGGS

STORAGE eggs are often very old indeed, occasionally many months or even several years. In districts where it is prohibited to keep eggs beyond a legal period—usually one year with 120 days' grace—the eggs may be shipped out of the region where they have been stored, into a state which does not have an egg law, and then shipped out again, labeled, for example, "freshly released from the District of Columbia." The very highest quality local eggs often suffer a wholly unwarranted disadvantage in price compared with eggs of superior appearance or uniformity which may have been shipped long distances and are far from fresh. The best safeguard of prices of the finest quality local eggs is that consumers should understand how to distinguish superior eggs from eggs which merely superficially look superior and are uniform in color and size. Government grade U. S. Special eggs (the highest grade) have air cells which are regular and no deeper than ⅛ inch, while U. S. Extras may have air cells up to ¼ inch deep, and U. S. Standard, air cells ⅜ inch deep. The deeper the air cell, the less fresh is the egg.

### Candling Test

The standard method of testing the freshness of eggs is the one of candling (method and standards described, for example, in *Eggs—Circular 394*. Albany: N. Y. State Department of Agriculture and Markets). A homemade candler can easily be made with an electric light inside an

From the *Consumers' Test Manual*, issued by Consumers' Research

ordinary pasteboard box in which a round hole has been cut. Do not let the bulb come close to the sides of the box on account of the danger of fire, and take care not to leave the light on accidentally overnight. The amateur using the candler will be able, principally, to determine the size of the air cell.

A fresh egg when examined against a strong light in candling shows a perfectly uniform rose-colored tint; if the egg is not fresh there will be numerous dark spots. Eggs which have been in storage tend to show, on candling, a slight intermingling of the white and yolk along the line of contact. The yolk of storage eggs also is apt to adhere to the shell on one side.

Other characteristics require experience to be determined with certainty. An expert can determine the presence of various forms of rot, hatch spots, blood spots, developed embryos, bloody whites, mold, ruptured yolks, and blood due to embryo development. Candling apparatus should be used in a dark room, and should be two feet from the observer's eye, which should receive only light passing through the egg and none from the lamp directly.

### Floating Test

Stale eggs will float in water. Fresh eggs will lie flat on the bottom of the container with, as time goes on, an increasing angle of the long axis of the egg to the bottom (due to the increase in the size of the air cell and the consequent rising of that end of the egg). The floating test has two disadvantages: first, it is only reliable as a test for relative evaporation from the egg, and second, it has an undesirable effect on the future keeping qualities of the egg because of the effect of moisture on the shell.

### Modification of Floating Test

Place the egg in a 10% solution of table salt (sodium chloride, $NaCl$). Very fresh eggs will sink to the bottom;

eggs three days or more old will stand upright in the water; eggs five or more days old will remain suspended in the liquid, but immersed; and eggs seven or more days old will rise to the surface. The older the egg, the higher it will float and tend to stand on end. (This test assumes that the eggs have been kept at ordinary temperatures, say about 70 degrees Fahrenheit, and does not apply to eggs which have been preserved. If the eggs have been kept in a refrigerator it might take nine or ten days, or longer, before they would float.)

### General Quality Tests

A recommended method of testing the quality of eggs is to break two or three into a flat plate and note whether the white is thin enough to stay near the yolk and stand up around it like a layer of clear, firm jelly. A white which runs over the plate and appears very stringy is poor in quality, or somewhat stale.

Another test is the poaching test. Only an egg with a good firm white will poach well.

Any degree of off odor generally means off flavor. The color of the yolk is an index of the feed of the hens, and a dark color is probably desirable, but yolk color is not a factor in *commercial* egg grading. High-quality eggs make lighter sponge cakes and omelets. For making custards and scrambled eggs, eggs with slightly watery whites will serve.

### References

A good reference on candling, which includes colored illustrations, is *Suggestions for Retailers on Compliance with the New Jersey Egg Law—Circular 244.* Trenton: N. J. State Department of Agriculture, July, 1934.

*What the Consumer Should Know About Eggs—Bulletin 172.* Albany: N. Y. State Department of Farms and Markets, November, 1924.

*Eggs—Circular 349* (already mentioned). Albany, N. Y. State Department of Agriculture and Markets, August, 1929.

*Handbook of Official U. S. Standards for Individual Eggs.* 5 cents from Superintendent of Documents, Washington, D. C. [stamps not acceptable].

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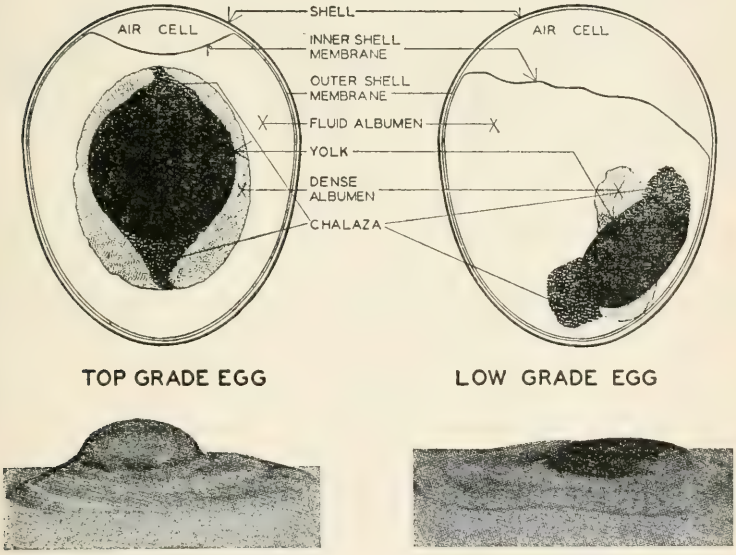



**Some Differences in Appearance between Top and Low Grade Eggs**

**Upper Left—Top grade egg showing a small air cell, large amount of firm or dense albumen with yolk in the center.**

**Upper Right—Low grade egg with a large air cell, small amount of firm albumen and sunken position of yolk.**

**Lower Left—Top grade egg removed from the shell showing firm albumen and yolk.**

**Lower Right—Low grade egg with "watery" albumen and "weak" yolk.**

# GARDENERS, START NOW!

Wise Gardeners, In Indian Summer, Get a Jump on Spring

*By*

ELIZABETH ANN PULLAR

EACH year more forehanded gardeners are taking advantage of pleasant autumn days to accomplish many garden tasks that otherwise would be left until spring, when work is more pressing and time seems all too short. In the fall, garden activities are at low ebb; the growing period is over and plants are ready for a winter's sleep. Now is the time to inspect your home grounds with an eye to improvement in its appearance and usefulness. A little thought and a pair of willing hands can do a great deal to enhance the livability and attractiveness of the outdoor portion of one's home.

### Cleaning Up and Mulching

Among the necessary fall clean-up duties about the yard is the general raking of newly fallen leaves, which are far too valuable to burn indifferently. They should be gathered conscientiously and set aside to decay into rich leaf mould for future use as an important soil ingredient. The compost heap where such leaves are deposited, although very essential, is hardly a sightly feature of the garden. If its location is not already concealed in a secluded corner of the lot, a planting of shrubs or quick-growing vines should be considered to prevent its marring the view from the livable garden area.

Flower gardens are next to need attention. Before frost has become too devastating, most gardeners will want to rescue an annual plant or two. A bright petunia may be cut back and potted to blossom in a window garden during the winter; sweet alyssum and other similar border plants will

continue to bloom if trimmed, potted, and brought indoors. Now is the last chance to gather the ripened seeds of extra-fine specimens (marked previously with a white string) of zinnias, marigolds, and other annuals which are not self-sowing. Such seeds should be labeled and stored away in a tin box in a dry place until spring.

A heavy frost will quickly demolish the late blooming flowers; then the plants, many of which are cumbersome and overgrown, must be uprooted and carried away. Annuals are not as likely to harbor disease as the herbaceous perennials and so their bulky remains may be added to the compost heap. Preliminary preparation of the annual bed at this time will save work in spring. Spade under the soil and level it off. Manure dug into the ground in fall will have a chance to decay and mellow during the winter, making the ground so much the richer for spring planting. If the garden is bordered by turf, the edges should be sharply cut. Grass has a habit of spreading out and invading the garden area. A discouragement of this creeping habit in the fall will aid in preserving a trim garden edge the following season.

Fall treatment of the perennial flower beds should include a last thorough weeding. There are warm days in autumn when hardy weeds will continue to grow and produce seeds. If not removed before this happens, the seedling weeds will be doubly hard to contend with in spring. Dead stalks of perennials such as phlox, peonies, asters, etc. should be cut off cleanly at the base of the plant and burned. Do not break or pull off the stalks as doing so may seriously injure the crown of the plant. Dead perennial plant material has been known to shelter insect pests and plant diseases over the winter. If the stalks are properly burned, they can present no danger to new spring growth.

The beds are now ready for their winter protective covering. This should never be applied until the ground is well frozen, usually about the first week in December. Materials

to be used as coverings, however, may be obtained earlier in the fall and kept in a convenient place until needed. Mulching is a widely misunderstood practice. Its purpose is not to keep the plants warm but rather to keep them cold once the soil is frozen around them! It is the alternating freezing and thawing of the ground that is the usual cause of winter-killing. Mulching before the ground is frozen may result in stimulating new growth which will be injured seriously when the cold weather appears. Also, a mulch applied too early in the fall offers a winter shelter for field mice which, when the ground begins to freeze, will dig their way into the soil, finding precious bulbs and, in all probability, destroying them.

Materials for mulching differ widely. As a rule, the covering should be light. If leaves are used, oak leaves are a much better choice than maple or elm leaves, which are apt to pack down too solidly and to retain moisture in excess. When evergreen boughs are available, they make a satisfactory covering for many types of plants and are attractive to look upon throughout the winter. Other coverings that might be used are straw, excelsior, peat moss, and salt hay, which may be purchased in bales and stored from year to year. Plants that keep their green leaves during the winter, such as foxgloves, hollyhocks, Oriental poppies, and Madonna lilies, should be protected at the base of the plant and not smothered with a heavy cover over the leaves.

Some of the more hardy perennials will survive the winter without extra protection but, unless one is very sure, it is a wise move to provide a covering. Many types of roses are extremely susceptible to winter killing. Before the ground freezes, it is well to mound up the soil six to eight inches high around the base of the shrub. Evergreen boughs may be added later. In spring when the covering is removed and the mound of soil is dug away, often it will be found that the stems protected by the soil are alive with buds ready to swell, while the upper stems which were ex-

posed to the air are dead. When these are trimmed off, the shrub is in excellent condition to start spring growth. In the case of roses, a little extra work in fall will certainly be repaid by stronger and more healthy plants in spring.

### Garden Making and Remaking

Advantage should be taken of the fall season to accomplish as much planting as possible, but before any is attempted, plans must first be made. Notes, mental if not actual, have probably been made through the summer as to what plant positions should be changed in the perennial bed. Now is the time to arrange for moving low-growing plants, the flowers of which have been hidden at the back of the border, to the front where they may e enjoyed. In the same manner, the tall-growing plants will look much less "leggy" if moved into the background. Thought given to color harmony will improve the aesthetic effects of the flower garden. If clashing colors have been noticed, such as magenta phlox beside orange lilies, one of them must be moved to a position in the garden where its vivid color will be appreciated.

No matter how carefully a garden may have been planned originally, within four or five years' time, the same garden will probably benefit by considerable attention. Crowded perennials cannot yield as perfect flowers as those with space to spread out. Phloxes, peonies, irises, day lilies, and numerous other perennials will profit by division. This involves digging up the plant and separating it into smaller sizes for replanting. Your garden will be improved by this thinning out and there will be many valuable leftover plant materials which may be put to good use. A border of shrubs makes an effective background for a new perennial bed in which the leftover divisions can be planted; there may be an unused section of your lot that would harbor the extra perennials, not so much for display as for cutting material for summer bouquets; or, such perennials may be used as

"wampum" in neighborly bartering—a custom dear to the hearts of gardeners.

Fall is an excellent time to add new units to the home grounds design. Such might include any of the following:

*Foundation Plantings*—Shrubs planted about the house soften possible bareness and help to alleviate the striking difference between structure and lawn. Avoid tall-growing shrubs, especially in front of windows.

*Shrub Borders*—Thick shrubs may be planted to insure privacy in an outdoor living room. Lilacs, honeysuckles, spiraeas, and mockoranges (Philadelphus) are dense and fast growing. Such material may be obtained from old shrubs you already have, which will probably benefit by division.

*A Pool*—Even a small one made from a tub will provide the means of growing water plants and keeping various types of fish.

*Play Areas*—Thoughtful planning may enable one to arrange for a smooth lawn space large enough for croquet, badminton, etc.

*Outdoor Fireplace*—Made of brick or native stone will be popular for picnics.

*Formal, rock, annual, herb, cutting, vegetable, or wall gardens* are all possibilities that may be added to the home grounds where space permits. Each separate unit should be carefully planned with the idea of avoiding a hodge-podge appearance. A hedge is practical for separating one garden from another, such as flower garden from vegetable garden, and stepping stones will make an informal walk from one unit into the next.

There are countless other additions that might be included in the garden layout, but so much depends upon the individual size, shape, and nature of the lot that each owner can best decide for himself first, what he wants and then, whether or not it will fit into the general design of his home grounds.

### Fall Planting

Fall planting of perennials, rather than spring planting, has several advantages in its favor for all but a few limited tender plants, such as birch, magnolia, and dogwoods. In the first place, the unavoidable untidiness resulting from preparing the beds and the actual planting of trees, shrubs, and perennial herbs is not minded nearly so much at the end of the season as it is in spring. Then also, it is logical to move plants when in their dormant stage after the growing period has been completed. They have an opportunity then to become established in their new location so that when the first warm days of spring arrive, they are ready to start growing.

It will be well to keep the following points in mind when planning to set out plants in fall:

Careful planting is well worth the effort. In placing trees and shrubs in the ground, be sure the hole is dug large enough so that the roots will not be crowded. Press the soil firmly about the roots and crown of the plant so that frosts and thaws cannot easily heave it out of place. Mulch placed around newly set-out plants will help to retain soil moisture which is so necessary when the roots are being adjusted to their new position.

Beds should be prepared as early as possible before placing the plants, since freshly dug soil will settle considerably with rain. This may result in hollows at the crown of the plant in which water can settle, causing much harm.

Peonies to be planted in October will respond to enrichment of the soil by old manure dug into a depth of at least two feet.

Newly transplanted evergreens will need plenty of moisture to force new root growth for the winter.

The blubs of all kinds of flowering plants that are envied in the gardens of others in spring should be planted now in special beds or scattered among the perennials.

Newly planted trees eight feet or over will probably need

to be supported by properly padded wire secured to stakes, to protect their root structure from strain and movement. This is particularly advisable when the trees are in locations exposed to wind.

The tops of transplated shrubs should be pruned as well as leaders, misplaced branches, and those that spoil the symmetry of the plant.

Bare patches in lawns should be reseeded early in fall so that germination can take place and the turf started before freezing weather sets in.

When the garden has been neatly cleaned up and protected against the ravages of winter, and when all possible tasks have been done preliminary to spring, the owner may feel well satisfied with his work. Almost as soon as it is completed, the deluge of seed catalogs will start to arrive, making one glad that the extra work done in fall will result in more leisure for experimenting in the fascinating new realm of seeds.

**Effects of Taxes on Prices**

A 12-months analysis of the effects of taxes on prices, just completed by the Northwestern National Life Insurance Company, Minneapolis, Minnesota, based on the tax and sales records of 206 manufacturers, shows that the "invisible" taxes contained in retail food prices average 7.1 percent; in clothing prices, 8 percent; in fuel and light bills, 9.5 percent; in sundries and miscellaneous household items, 10.2 percent. Records gathered by the company on 7,964 single- and multiple-family dwelling units in 48 cities reveal an average of 25.3 cents for taxes on each dollar of rent paid by the average tenant family.

—U. S. Department of Commerce

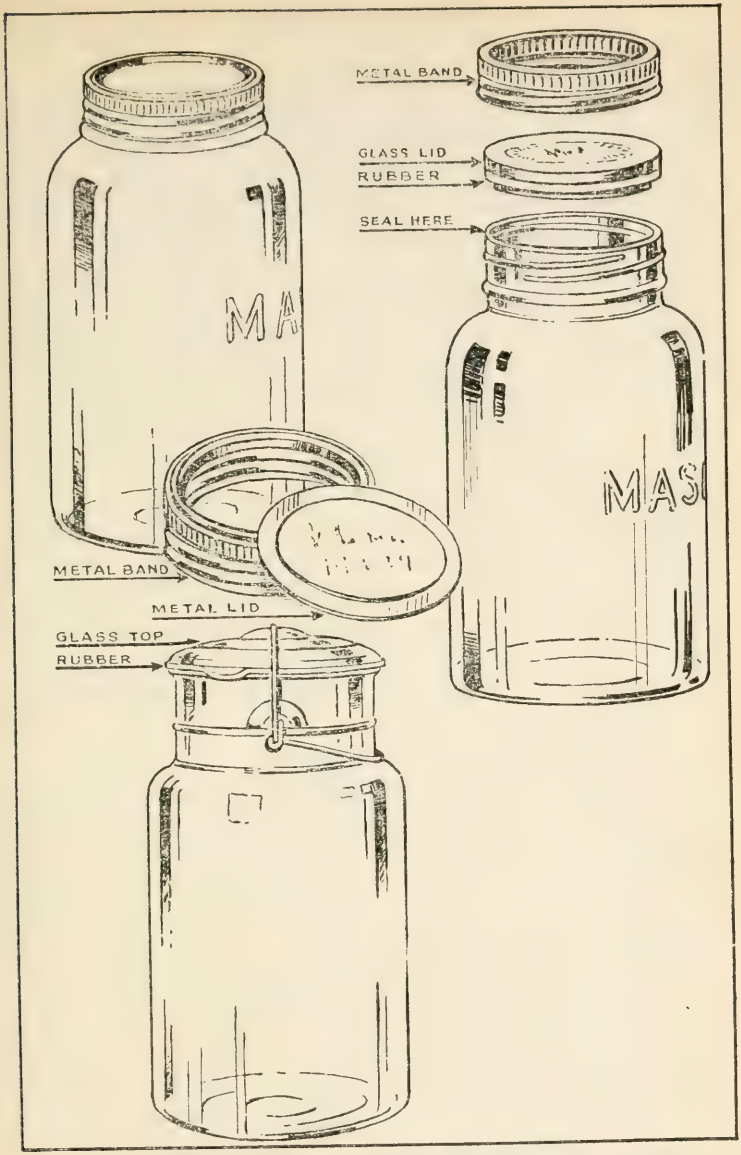
# JARS AND CLOSURES FOR HOME CANNING

ALTHOUGH it has been known for some time that the old-fashioned zinc screw caps with porcelain linings for Mason jars are easily corroded by acid products and that the zinc salts thus formed have an unpleasant taste and are poisonous, these facts have never been stressed to any extent by the government or state agricultural agencies. These caps also pick up and retain, between the glass top disc and the metal cover, strong odors, such as those in mincemeat and sauerkraut, to such an extent that they may ruin the flavor of the contents of the next jars on which these caps are used. As to tin cans for home canning, there is an extra expense for the sealer necessary and its use requires some extra time. There is the further fact that the cans themselves are often corroded by the action of acids and other reacting substances present in the food which is canned. Cans so corroded will not be worth reflanging for use a second time; this tends to make canning in tin impracticable for the average home except in the case of foods with which a tinny taste does not develop in storage in the can and which do not cause the internal corrosion and discoloration of the tin, which has been mentioned. There has been almost no information published on the advantages and disadvantages of the various types of jars and closures on the market, which can be taken as reliable and free from commercial bias. To fill the need for dependable information in this field, Consumers' Research has done some preliminary work on the subject during the past year. The easily obtainable types were used, including: standard Mason jars closed with (A) old-fashioned zinc caps which have a glass disc or cap fitting into their topmost part using standard-size rubber rings for sealing; (B) two-piece metal caps requiring no separate rubbers, a ring of sealing composition being recessed in the lower or disc element of the two-piece top so as to make airtight contact with the glass

jar rim; (C) two-piece tops consisting of a glass lid used with a special-size sealing rubber and an outside metal screw-down cap (band) to hold the glass lid in place; (D) wide-mouth Mason jars having a 2⅞-inch diameter opening, suitable for whole tomatoes, whole large peaches, and the like, using closures of the same construction as Type C; (E) so-called *"Lightning"* or quick-closing glass-top jars, using standard-size rubbers as a seal, closed by a wire clamp-down arrangement which snaps into place; (F) No. 2 size tin cans, sealed by a regular can sealer appliance. Jars of a large range of types may be bought from hardware merchants, grocery and general stores, or five- and ten-cent stores. In other places it may be necessary to buy some types from one of the large mail-order houses, which list in their catalogue all or most of these types.

Since pressure cooker canning is the method recommended by the United States Department of Agriculture, state agricultural departments, and manufacturers of canning equipment, for meats, fish, poultry, and all non-acid vegetables, the pressure cooker method was used for all types of jars and closures tested, on one batch of vegetables in the *Kook Kwick* Special Canning Pressure Cooker (distributed by Sears, Roebuck & Co.) in order to have identical conditions from which to judge the results. Another lot was done by the cold-pack, water-bath method. No difficulty was experienced from spoilage with any type of closure after a storage period of a year. Time has not yet permitted the making of tests for metallic contamination of can or jar contents; however, storage in a damp cellar caused such serious corrosion of the outside of the tin cans as to make them unsightly and probably unfit for further use. Future studies using some of the less usual types of jars and closures are contemplated.

Preliminary conclusions, which are believed fairly reliable, though not, of course, complete, are given below. These, of course, may be modified as more data become available in this study.




Upper left jar, Type B; upper right jar, Type C; lower jar, Type E.

## Jar Tops

### RECOMMENDED

*Kerr* Two-piece Metal Caps, Cat. Nos. 86—2228, 86—2229 (Kerr Glass Mfg. Corp., Sand Springs, Okla.; distrib. Montgomery Ward & Co.) 21 cents per dozen complete plus postage; top-lids, the flat part containing rubber gasket only, 10 cents per dozen plus postage. (Type B) Some, at least, of this type of lids, as delivered to the consumer, are stuck together with such tenacity that separating them for use is difficult and, if they are separated with tools customarily available in the home, may be even somewhat hazardous to the housewife-user. This defect is, of course, a wholly unnecessary one easily corrected by a simple shift in the manufacturing process.

*Crown* Two-piece Metal Caps (Crown Cork and Seal Co., Baltimore; bought at a Pennsylvania hardware store) 19 cents per dozen. Much the same as *Kerr*. (Type B)

*Atlas* Two-piece Metal Cap (Hazel-Atlas Glass Co., Wheeling, W. Va.; bought at a New Jersey hardware store) 35 cents per dozen. Like *Kerr*, except that the flat top part containing the rubber gasket has a coating of white enamel on its lower side. (Type B)

Since all the above are tightened fully before processing and self-sealed by vacuum as the jars cool, no liquid is lost, whichever one of the preferred processing methods is used. Removing the screw caps (or, as they are called by the jar manufacturers, bands) as soon as the jars are cool makes it possible to use them over and over by purchasing separate top lids, which are little more expensive than regular rubbers. The *Kerr* top lids may be used with any of the three brands of screw caps or bands noted above. This type of closure has the further advantage of making possible the use of any screw-top jar on which the top lid will fit properly, such as pickle, mayonnaise, and peanut butter jars, now often being made in a form to permit their later being used as preserving jars after the contents with which they

were sold have been used up. So long as these so-called "reuse packages" are popular with producers of packaged food, a considerable saving in jar purchases may be made by their use with the *Kerr*-type closure. On the whole, Consumers' Research's opinion, from the point of view of convenient manipulation, is that this is easily the favored type. Later work, including a study of metallic contamination of the contents, may mean a different emphasis, but on present information it is believed that the element of possible metallic contamination need not be given great weight with this type jar.

### Qualified Recommendation

*Presto* Two-piece Caps with Glass Top Lids and Aluminum Screwbands (Cupples Co., St. Louis; distb. G. C. Murphy Co.) 25 cents per dozen. Special-size rubbers, not always obtainable, must be used. (Type C) caps must not be tightened to the final extent except for pressure cooker use to allow for the escape of steam during the heating process, and this may be a disadvantage since some liquid may also escape. This jar-top arrangement will be satisfactory for most methods of canning and has the distinct advantage, with respect to the canning of products whose flavor is delicate and might be harmed by contact with metal, that only glass and sealing rubber come into contact with the product.

Glass Tops for use with regular-size rubbers on *"Lightning"*-type jars, such as the Ball *Ideal,* having a wire clamp-down arrangement. This type is easy to use and clean; however, except when using in the pressure cooker, it is not permissible to tighten it completely during processing, which is objectionable since some liquid may escape from the jars. (See above.) This type is very satisfactory for most methods of canning. As with the *Presto* cap, only glass and a portion of the width of the rubber gasket come into contact with the product. (Type E)

### Jars

Dropping consideration of caps and proceeding to the problem of jars, the standard-size Mason would seem the most economical jar to use on the basis of the foregoing observations. There is some advantage to the wide-mouth jars, e.g., for canning sweet corn whole and for large peaches, pears, and tomatoes, but these jars do call for special rubbers which, in some towns, may be hard to secure. Where difficult to obtain, such special rubbers can be bought from one of the large mail-order houses.

#### Recommended

Standard-size Mason jars (of various sizes) made by a number of firms and, so far as known, of comparable quality, may be purchased from local hardware and grocery stores.

### Jar Rubbers

Where a type of cap is used with which a rubber is required, the rubber should be of adequate size, as a rubber which has been skimped in size by the manufacturer and, therefore, must be stretched excessively to place it on the jar will likely suffer severely in quality during the boiling process. A good rubber can be sharply bent and folded between the fingers without showing any signs of cracking and breaking; it should return almost immediately to its original size when stretched to about twice its length; when crumpled tightly together in the hand, it should spring back instantly into its original shape as soon as released.

There are many good pamphlets on home canning, a partial list of which follows:

**Federal**

*Canning Fruits and Vegetables at Home—Farmers' Bulletin No. 1471.* Revised May, 1933. Issued by the United States Department of Agriculture. Available from the Superintendent of Documents, Washington, D. C., at 5

cents (stamps not acceptable).

*The Home Canning of Fishery Products—Investigational Report No. 34, Vol. II.* 1936. Issued by the United States Department of Commerce. Available from the Superintendent of Documents, Washington, D. C., at 5 cents (stamps not acceptable).

**State**

*Home Canning—Cornell Extension Bulletin 261,* by Marion C. Pfund. 1933. Published by the New York State College of Agriculture, Ithaca, N. Y.

*Canning Meats—Special Circular 263.* October, 1933. Published by the Agricultural Extension Service of the College of Agriculture, University of Wisconsin, Madison, Wis.

*Home Canning—Circular 276.* Revised May, 1935. Issued by the Agricultural Experiment Station, Berkeley, Calif.

*Successful Home Canning—Extension Bulletin 132.* Reprinted July, 1935. Issued by the Michigan State College of Agriculture and Applied Science, Extension Division, E. Lansing, Mich.

*Food Preservation—Circular 112.* Reprinted August, 1932. Issued by the Alabama Polytechnic Institute, Extension Service, Auburn, Ala.

*Food Preservation Manual—Monograph No. 13,* May, 1936. Issued by the State Department of Public Welfare, Division of Special Programs, Olympia, Wash.

*Note:* In connection with state and other local experiment station circulars on canning, it is to be noted that some have failed to point out the hazards of processing cerain vegetables, meats, etc., without a pressure cooker. Consumers' Research has not studied these bulletins with that point in mind. In case of doubt or difference of directions that might affect the safety of home canning practice, readers should be guided by the instructions in *Farmers' Bulletin No. 1471.*

# GULLIBLE'S TRAVELS

August 24, 1937.

Snocum,
Coconut Grove,
Pacificania.

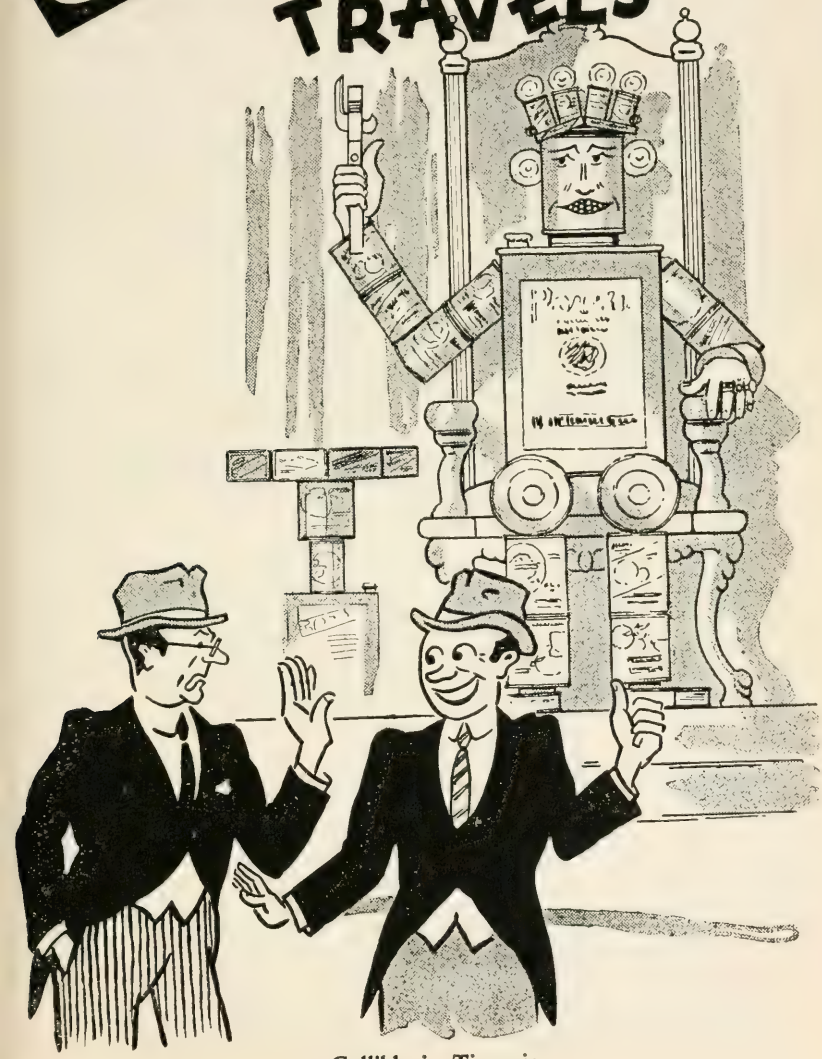
Dear Snocum:

Sometimes I have an attack of pessimism over our backwardness in Coconut Grove. I despair of our ever catching up with the vanguard of progress. The people of the United States are so far out in front in all of the refinements of civilization. --

What, for example, do our people know about tin cans? Next to nothing. Some years ago, when the Standard Oil Company began shipping oil to Coconut Grove, they used five-gallon tin cans as containers. It was then that we learned for the first time something of the relation of civilization to tin cans. Our people learned that these tin cans could be used for roofing and the patching of their boats, but there their education and advancement in civilization ceased. They never progressed a step farther toward the full realization that you should put everything, or very nearly everything, in tin cans.

After all these years, since the coming of the five-gallon oil can, our people are still picking ripe fruit directly from the trees, little dreaming that it should be picked green, treated with ethylene gas to give it uniformity of color and the appearance of ripeness, watered and heavily

# GULLIBLE'S TRAVELS



Gullible in Tincania

list of the consumers of iron. And when iron goes into a tin can, it is of no further use. It cannot be salvaged, as iron used for other purposes can. This is all to the good in a civilized society which depends more and more, as time goes by, for its progress upon the permanent destruction of goods. Only a savage people would think of using a discarded tin can for roofing or as a vessel for carrying water.

Well, think of all the dentists we could keep busy if only our people would learn to eat all of their food from tin cans. Veritably, the can opener is the best symbol of advancement in civilization. And I do not recall ever having seen a can opener in Coconut Grove!

Yours hopefully,

Gullible

HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

## WHAT READERS HAVE TO SAY

"I wish to thank you for the many problems that you have solved for me with the help of your magazine. It has been a great help when shopping."—J. L. B., Spokane, Wash.

"I have just recently learned of your publication and consider it an invaluable guide for the home manager."—E. L. W., Columbus, Ohio.

"Have read *Consumers' Digest* from the first issue. It is swell!!!"—A County Welfare Agent, Ravenna, Mich.

"I wish to express my appreciation for your wonderful *Digest*. It has been very helpful and educational. We haven't missed a copy since it came out."—Mrs. R. R., Chicago, Ill.

"I, as well as many friends, enjoy your *Digest* immensely; in fact I use it to guide me in managing my home economically."—J. A. S., Newton, Mass.

"The *Consumers' Digest* is very good and the May issue I found so informative that I made a special effort and secured the February, March, and April issues in addition."—C. F. C., Brooklyn, N. Y.

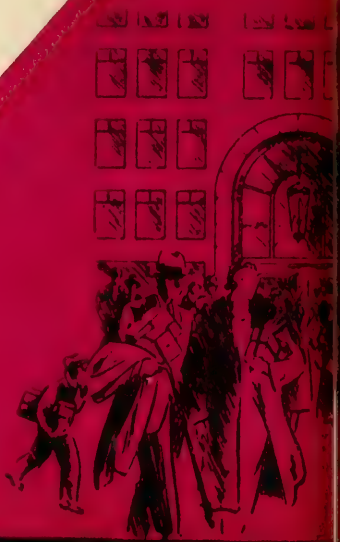
"I have been a constant reader of *Consumers' Digest* from its first issue and have found it both interesting and valuable to me."—D. L. N., Los Angeles, Calif.

"I have read the *Consumers' Digest* beginning with the first issue and intend keeping them for future reference . . . I am delighted to find a guide to better buying within reach of the average person and I think your magazine fills a great need."—Mrs. H. C. C., Ridgway, Pa.

"Since the first issue of *Consumers' Digest* appeared some time ago I have wanted to write to you and tell you how glad I was to see that a definite step toward helping the consumer has been taken. I know that thousands of others like myself will be guided in their purchases by the recommendations contained in your magazine, and profit thereby. Let me wish you the best of luck."—H. P., Brooklyn, N. Y.

# CONSUMERS DIGEST

*Always Get Maximum*
*Value For Your Dollar*



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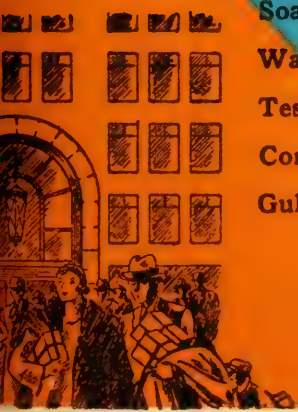

ADVICE on HEATING

25c

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# CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

## COMPARATIVE MERITS OF HEATING SYSTEMS

### Hot-Water Heating Systems

**Gravity Open Type**

Hot-water heating systems are particularly adaptable to residential use and should be designed so that they will supply the heat needed without requiring the temperature of the water in the system to be raised above 180 degrees Fahrenheit in the coldest weather. If a system fails to operate at this temperature in severe weather, the cause will be any one or all three of the following: insufficient radiator surface, piping too small, boiler too small. To overcome the difficulty, perhaps all three will have to be corrected. For protection of the purchaser, the maximum water temperature required to furnish the stated temperature conditions should be named in the purchase contract.

For uniform heating, each main should have as nearly as possible the same number of square feet of radiator. Where boilers are located on south, or least exposed side of building, uniform distribution can be obtained by carrying the supply main to the opposite (north) side and so distributing heat first to the radiators which are farthest from the boiler and which, by reason of their being on

Condensed from Consumers' Research *Special Bulletin 14—Heating and Ventilating*

the exposed side of the building, require the most heat.

Advantages of hot-water heating systems are: a low-temperature heating medium, and consequent freedom from odors sometimes caused by steam radiators, longer carry-over of heat after fire is banked, maximum simplicity and economy of operation, slightly greater efficiency with intermittently operating firing devices, such as oil burners and gas burners.

Water should not be drained from a hot-water system during the summer months.

**Gravity Closed or "Pressure" Type**

The purpose of a pressure system is to compensate by raising the water temperature (up to a maximum of 220 degrees Fahrenheit) for insufficient radiation and skimped piping (which have caused too low velocity of circulation of hot water). Its operation is, however, decidedly uneconomical since the increase in the amount of fuel required to maintain higher water temperatures is far greater than the increase in heat-yield. (Economical operation calls for water not hotter than 180 degrees Fahrenheit.) Nevertheless, given an inefficient hot-water system already installed, it may be desirable, even in the face of the resultant increased operating costs, to convert it from a gravity open-tank system to a closed system operating under pressure at higher water temperatures. This is done by the use of a pressure-reducing valve on the cold water line supplying the boiler and relief valves, with consequent elimination of the expansion tank. Even in this case, if the piping is much too small, it may not be possible to get sufficient heating effect because of the too slow flow of water through the system.

**Forced Circulating Type**

A forced circulating hot-water system is frequently used for large installations where piping runs are very long, where it is difficult to obtain proper grading of piping, and

where much of the radiation is on the level with, or sometimes lower than, the boiler. Smaller pipe sizes may be used to deliver a given quantity of water as the power to overcome friction and move the water is supplied by the circulator instead of being supplied by the hydrostatic head developed by heat within the system itself. A true forced circulating system requires a continuously operating pump. For small systems, electrically driven motor circulators are available which operate intermittently, being controlled either by a thermostat, by the operation of an oil burner or stoker, or manually.

Electric pumps and circulators provide additional pieces of equipment which consume energy, depreciate more rapidly, and are potential sources of trouble in the event of failure. Unless installed with extreme care, pumps and circulators will be noisy and readily transmit objectionable sound throughout the building, owing to their direct connection with the piping system. This constitutes a real objection to the use of such apparatus and arrangements in a residence.

Where piping is undersized and has long horizontal runs, a circulator may be used to good advantage and at lower initial outlay than is required to replace piping with pipe of proper size. Systems embodying the use of a circulator as a feature should be avoided if rugged simplicity and satisfactory operation through freedom from potential trouble is desired.

*Hot-water heating systems of any type should not be used in a country home or one which is occupied intermittently, unless there is someone watching and operating the system at all times to prevent any possibility of the fire's going out in severe weather and consequent freezing and bursting of radiators, piping, boiler, and all equipment within the building which happens to contain water.*

**Comparative Installation and Operating Costs**

The installation cost of a gravity open-type system and

a closed-type system will be the same, as the same quantity of radiation is required for either, and the same pipe sizes and same size boiler should be used. There is practically no difference in the cost of pressure-reducing and relief valve for the closed system and an expansion tank for the open system, while there are many advantages in favor of the latter. Purchasers should not be misled by sales talk to the effect that the use of closed-type "specialties" will permit the use of smaller piping. To supply a given required amount of hot water through a smaller pipe requires a higher water temperature, and higher water temperatures always require more fuel and cause lower efficiency. The forced-circulating-type system will cost more than the gravity type, both in initial and operating cost, since the energy cost for electricity to run the motor must be added to the cost of fuel and the maintenance and depreciation costs for the pump unit run higher than for the rest of the system.

Compared with steam or warm-air systems, the relative first cost and operating cost of the hot-water system will vary. In a small residence (up to eight rooms), a hot-water gravity system will be lowest in installation cost and about medium in operating cost; warm-air system, medium in installation lowest in operating cost; vapor system, medium in installation highest in operating cost. In a residence of from eight to fifteen rooms, a hot-water system will be medium both in operation and installation; warm air, high in installation but lowest in operating cost; vapor system, medium in both—about the same as hot water. In a residence larger than fifteen rooms, a hot-water system will be medium in installation and low in operating cost; forced warm-air system, highest in installation lowest in operating cost; vapor system, lowest in installation medium in operating cost.

## Steam Heating Systems

### One- and Two-Pipe Steam Systems

The one-pipe steam heating system, while lowest in installation cost, is the most expensive and least satisfactory in operation and necessitates unusual care in design and installation. Odors from air escaping into rooms, odors from hot dust at high radiator temperatures, the problem of tightness of piping with high steam pressures, and air valves (always more or less troublesome) are objectionable in all heating systems which use steam at 212 degrees Fahrenheit or higher. Uniform temperature regulation is difficult. In the present state of the art, a one-pipe steam heating system may be looked upon as obsolete. It can hardly be justified even on the low initial cost basis, because its cost of operation is so much greater than that for a vapor system that the excess fuel consumed will pay the additional cost of the better equipment in two, or frequently one, years' operation. A one-pipe system, unless extraordinarily well designed and installed, will likely cause a consulting engineer not to recommend mortgage loans upon the building in which it is used. Vacuum air-vent valves which will close against movement of outside air into the radiator, thus causing the system at such times to operate with a slight vacuum, will considerably improve the operation of a one-pipe system if other essential parts—grate area, pipe size, radiating surface, etc.—are adequate in size for boiler efficiency, and provided all piping connections are absolutely airtight. One leak anywhere in the system will destroy any advantage to be gained from using this type of valve.

A plain two-pipe system is more efficient and responsive than a one-pipe, but is infrequently used.

### Sub-Atmospheric Vapor Type

Low-pressure steam or vapor systems with or without radiator traps differ from the ordinary two-pipe system

in that they are entirely sealed against admitting air and permit the circulation of steam at less than atmospheric pressures, thus providing a lower-temperature heating medium at such times as pressure is not required, as in mild weather. Condensation is returned to the boiler by means of a return trap, which is common to almost all sub-atmospheric systems. Return traps have a float-actuated mechanism for opening a steam valve and equalizing the pressure on the return water so as to permit it to flow into the boiler by gravity when sufficient condensation has accumulated in the trap. The advantage of a vapor system lies in smaller piping and smaller radiators than for hot water in that the return piping is considerably smaller than the supply, and in locations where temperature fluctuations are rapid, it is possible to supply heat more quickly than with hot water and also to let the heat die down more quickly when not required.

**Vacuum Heating Systems and Condensation Pumps**

A vacuum system is similar to a vapor system with the addition of a vacuum pump, usually electrically operated, which maintains a vacuum on the return side of the system at all times but carries little or no vacuum on the supply side. Air is expelled from the system by means of a pump, and condensation is returned through the pump to the boiler. Vacuum systems are not recommended and are rarely used for small installations. In a very large residence, they may be an advantage, or where it is necessary to carry returns at, or considerably below, the level of the boilers, in which case the vacuum pump will return condensation by means of lift fittings installed in the return line. Exceedingly hot water or steam blowing through a defective or open trap will decrease the efficiency of the pump.

The installation cost of a one-pipe steam heating system will be lowest, vapor system medium, vacuum system high; and the operating costs will be lowest for the vapor system,

medium for the vacuum system, and highest for the one-pipe steam heating system in the average medium-sized installation. In large structures, the vacuum-system operating cost and installation cost may be lower than the vapor system and only slightly higher in cost than a one-pipe steam system. The savings in operating cost, however, will far more than offset any additional investment over the initial cost of the one-pipe steam system. (For installation and operating costs compared with hot-water and warm-air systems, see *Comparative Installation and Operating Costs* under "Hot-Water Heating Systems."

Steam equipment is more complicated in installation and requires greater care and maintenance. A steam or vapor heating system requires frequent cleaning; traps on radiators, return trap at boiler, and air vents on main must be regularly examined and cleaned.

Avoid any sort of complicated system for a small residence. Rugged construction and notable simplicity of valves, traps, and other equipment should be governing factors in selection. Ample down-grade of main piping in direction of steam flow is essential. The most frequent causes of trouble are dirt and grease in a system. When the system is newly installed, insist, before it is accepted for operation, that all traces of grease be removed from the boiler water. Watch gauge glass for signs of dirty water thereafter.

## Warm-Air Heating Systems

### One-Pipe or Pipeless System

This system has no particular advantage in heating other than low initial cost and is satisfactory only if even distribution of heat and efficient consumption of fuel are not essential factors. The disadvantage of such a system for a structure having more than one room lies in improper distribution of heat and waste of fuel, owing to all air being introduced from the outside. Some of these furnaces

are built with a recirculating register around the air-supply register, both located directly above the furnace; this type is considerably more efficient in use of fuel.

Often such furnaces are used in small one-story houses with little better effect than an ordinary stove. If located in the center of the structure and provided with recirculating ducts from registers located near the outside walls, in addition to the usual fresh-air intake from outside (which should be equipped with a damper that is kept closely adjusted to weather and wind conditions), heat supply will be improved and less fuel will be required.

**Gravity-Circulating Pipe Systems**

These systems may be effectively used in small and compactly arranged buildings in which long ducts are not used. In all important rooms provision should be made for return of the air to the furnace to prevent "dead pockets" and cold spots due to cold air from the outside leaking in, creating back pressure, and displacing the warm air from the heating system, and to save fuel. Bathrooms and kitchens should have separate outside air vents to prevent circulation of odors. The large distributing ducts should "grade up" from the furnace. Even so, allowance must be made for the fact that they will materially reduce head room in the basement.

**Forced-Circulation Pipe Systems**

Many forced warm-air systems are being sold today under the term "air-conditioning system," but that term is one that can only rarely be accepted at its face value. An "air-conditioning system" is often merely a warm-air furnace with a new casing, perhaps of different shape, a brilliant coat of paint, and the addition of some sort of a fan, air filter, and humidifying device.

A forced-circulation warm-air system differs from a gravity system in that a power-driven fan is employed to

overcome frictional resistance and thus make possible the use of rectangular ducts of smaller size. These are most easily concealed and provide greater head room in the basement than can be had with the round ducts in the gravity system, which must grade upward from the furnace and on that account require still more head room. A good forced warm-air heating system has the following advantages which cannot be had with systems of other type: (1) It heats quickly. (2) It assures positive circulation of all the air within the structure and the admission of a regulated amount of outside air. (3) It affords the possibility of extracting much dust and dirt from the air through the installation of filters. (4) It provides the means of humidifying the air more or less uniformly throughout all rooms without the use of individual humidifying apparatus as is required with steam or hot-water heating. (5) It does away with the necessity for radiators, which take up space and are dust catchers. This point of advantage should not be given too much weight, however, since radiators are usually placed under windows in space not usually desirable for furniture.

The disadvantages of such a system are that the fan requires some attention, such as oiling, etc., and if such refinements as an air filter and humidifier are added, these must also be cleaned and serviced. Floor registers in a warm-air system will collect a rather large amount of dust during the time when the furnace is not in operation. The amount of dust which is blown into the room when the system is started in the fall will be greatly increased, of course, by the installation of a fan unless the dust is entirely cleaned out beforehand. If there is the slightest leak in the warm-air ducts in the basement, any gas fumes or dust present will immediately be carried through the house.

It is often possible at small expense to make a forced warm-air system out of an old gravity system by installing a fan and return pipes from the important interior rooms.

This will not only overcome most of the faults of the gravity system, but also increase its efficiency and decrease fuel costs.

Do not replace a gravity warm-air system with a hot-water or steam system unless the duct work has entirely rusted out, and until the possibilities of making a forced-circulation warm-air system of the gravity system have been investigated. It will usually be found that a new furnace, a fan and filter, and some additional basement duct work can be installed at less than one-half the cost of a new heating system. Since a heating system must be capable of continuous operation, an electrical auxiliary device like a fan must always be considered a disadvantage because of possibility of temporary stoppage of power supply with consequent shutting down of the heating equipment.

The operating cost of a well-designed and well-installed warm-air heating system of either the gravity- or forced-circulation type will be about the same, with a decreasing cost for the latter as the size of the structure increases. In larger houses, long runs of piping require much warmer air at the furnace and hence lower heating efficiency in order to supply the proper amount of warm air to all rooms and overcome air friction in the ducts. In general, the air heating system will have a lower operating cost than a hot-water or a steam heating system.

**Cans, Cans, Cans—Now It's Gravy!**

Gravy addicts can now buy it in cans, according to a local press report. The product already has made its bow on the shelves of New York stores. The canned gravy is said to be a rich, medium brown, colored with the red juices of meat and with a smack of vegetable flavoring. The can holds one and one-fourth cups and sells for a dime.

—*Packaging Digest*

# THE SELECTION AND PURCHASE OF HEATING EQUIPMENT

### Factors in Selection of Type

PROPER care and consideration in the selection of the heating system will well repay anyone's time and effort in going into the matter thoroughly. The heating system, besides performing the necessary function of safeguarding health and providing comfort, is also an item with great depreciation—a depreciation more rapid than that of other parts of the dwelling—and has a large *operating cost* in coal, wood, gas, electricity, etc., which continues during the entire time of use. Whether this cost is large or small will depend largely upon the selection of the proper type of system to suit the given conditions.

It is conservatively estimated that eight out of every ten house-heating systems are deficient in one or all of three essentials: the number and sizes of radiators or registers, the size of piping or ducts, and the size of the boiler or furnace—all of which are interdependent and of great practical importance for satisfactory and economical operation. Modern practice and good heating plant design make possible the uniform heating of any space and the satisfactory heating of "cold rooms" in exposed locations. Seriously uneven heating and insufficient heat on cold days are most often due to faulty installation and the contractor's ignorance of fundamental engineering principles, and should not be accepted by purchasers as something that must be tolerated.

The following points, arranged in order of importance, should receive careful consideration. The proper system will give even heating and good control of temperatures, with economical fuel and operation costs, and a low rate of depreciation.

1. *Heating requirements:* interior temperatures required; characteristics of house—its size, construction, and ma-

terials: wood, brick, stone, etc., and their heat-transmitting properties, thickness of walls, insulation, number and size of windows, climate, and wind exposure; all of which determine square feet of area of radiating surface (and of area of furnace grate for a given type of fuel) required.

2. *Cost:* initial investment; interest on investment; amortization (the money necessary to replace the equipment with new, when obsolete or worn out.)

3. *Cost of operation:* cost of fuel, including gas or electricity if required for auxiliary apparatus, compared with other types of fuel; cost of servicing; cost of ash handling; cost of probable repair requirements.

4. *Ease of operation:* availability of fuel; availability of servicing, repairs, and replacement parts; cleanliness; method of handling fuel and ashes.

5. *The location* of the structure for which the heating plant is required has an important bearing on the selection of type of heating plant. For country or isolated suburban places, a hot-water heating system has the disadvantage of danger of freezing, which if it occurs would completely ruin the system and also the structure (when a thaw afterwards permits the melting ice to run freely over floors and through ceilings). There is particular danger where automatic firing equipment is used and where there is the possibility of mechanical failure or interruption of the electric or gas service required for operation of oil burner or stoker.

6. *Temperature characteristics* of a locality, such as whether changes are rapid or slow, also have an important bearing on the selection of a heating system. Some are more responsive, heating quickly and cooling off quickly; others heat slowly and hold the heat for a long time.

7. *Aesthetics* and the value of usable space also require consideration. The best practice is to place radiators under windows, a location usually of no value for furniture where windows are of the average height from the floor. Radiators concealed in walls, having only an inlet opening at the

bottom and outlet at the top, eliminate any projection into the room and improve the appearance, but they are not the best types from the standpoint either of economical operation or low maintenance. The larger radiators required by hot-water systems are heavy, take up more room, and may call for expensive structural alterations to provide recesses of proper size. Extreme caution should be exercised not to permit extreme demands for good appearance to overbalance sound principles of applying heat through proper location of radiators and registers of adequate sizes.

### Proportionate Cost Limits

The cost of a heating system for the average residential structure, regardless of its type, should run to something between eight and eleven per cent of the total construction cost, at average labor and material prices. A system installed for less than eight per cent is apt to be inadequate, and one exceeding eleven per cent, may be burdened with superficial and non-productive gadgets or luxuries which contribute little, if any, increase in efficiency. Most of these items have extremely high depreciation rates and many of them are wholly unsuccessful and thus are obsolete almost at once; in fact, they are either thrown away or hidden as soon as the novelty to the purchaser wears off. Such items include spray-gadgets and humidifiers, air filters, many so-called conditioning units, draft-adjusting mechanisms, etc., which are produced at low cost and carry, with expensive advertising and high-priced, high-pressure salesmanship, an extreme markup between manufacturing cost and selling price.

The spread between the percentages given is sufficiently large to include such refinements as thermostatic control of temperature and humidity and so-called air-conditioning systems that do not have cooling or dehumidifying features. Whether too little or too much has been spent on a heating system in proportion to the entire cost of the structure has an important bearing on the building's resale and loan value.

### Engineers

The services and advice of a competent engineer specialist in the design and selection of heating, ventilating, and cooling systems are invaluable to the purchaser, provided:

That the engineer has definite technical training and qualifications and ability, and will honestly serve his client's interest alone;

That he has actually specialized in and responsibly worked in this specialized art and allied lines and that he can point to a successful record of completed and satisfactorily functioning heating installations;

That his designs and advice for his clients include such basic economic factors as proper relation of initial and operating costs to the service required, as well as mechanical completeness and excellence.

For large or unusual installations, *always* employ a consulting engineer specializing in heating and ventilation to design and supervise the installation of the system. Engineers have their faults and deficiencies, but their advice on a problem so vital to home comfort as a heating plant is much more likely to be dependable than that of a contractor. A contractor may have sound technical sense and be free from commercial biases that will affect his recommendations to the disadvantage of the consumer, but more often this general outlook will be found in the possession of the graduate engineer.

A professional engineer, in order to practice his profession in twenty-nine states of this country, must obtain legal registration in the state in which he is to practice. However, as with physicians, the registration in most states permits the engineer to practice any specialized branch of engineering profession which he may choose, such as electrical, mechanical, structural, or mining engineering, and registration is not a guarantee of competence *in the specialty.* A civil engineer, for example, may practice in the field of heating, or sewerage, or water supply; yet very different skills

and experience are required for a real specialist in each of these.

In spite of this defect, registration laws are the only practicable means of protecting the public against incompetency and dishonesty, and their effect at present in some states and in the future in other states will help greatly to eliminate the incompetent.

The names of professional heating and ventilating engineers in your locality may be secured from your state registration board or from the local organizations of the American Society of Mechanical Engineers (or addresses may be had by letter from the Society's main offices at 29 West 39 Street, New York City) and the American Society of Heating and Ventilating Engineers (main office: 51 Madison Avenue, New York City). Be careful to select only engineers who are in independent professional practice and not in any way or at some times connected with manufacturers, merchandising groups or associations, heating and plumbing jobbers or contractors, or public utility companies. There are a number of engineers who play a double role of promoting particular commercial products and at the same time sell their services to heating-plant "consumers."

The comparatively high cost of professional services has been a deterrent to the average purchaser of small systems. For engineers specializing in this work, a fee of from $60 to $75 for the design, plans, specifications, and supervision of installation of a system in a residence of not more than ten rooms, with an additional fee of from $4 to $6 for each additional room, is adequate compensation; for thorough work, one should expect to pay somewhere around this price.

### Contractors

The best contractors, through experience and a sincere interest in their trade, provide valuable assistance to the purchaser in obtaining for him not only excellent workmanship, but also an economical assembly of good products.

Purchasers are cautioned that the *lowest* price is, in the purchase of a heating plant, rarely the most reasonable price from the viewpoint of value, for a cheap job may contain an extraordinarily high margin of profit both to the contractor and manufacturer, while the slightly higher-priced job may contain a greater quantity and a higher quality of material. Purchasers should require contractors to submit prices *on identical quantities and quality of materials,* else the problem of decision may become an impossible one.

Members of the Heating and Piping Contractors National Association (50 Union Square, New York City) and of the National Warm Air Heating Association (174 East Long Street, Columbus, Ohio) are usually more reliable than the average, in so far as they follow the principles of design and workmanship set up by the associations.

The consumer will be wise, however, to remember that any trade association functions primarily for the benefit of its members and in achieving those benefits will sometimes fall far short of doing the best possible for its members' customers. All too many trade associations function in a way to prevent active competition between their members, so that the consumer on the average will pay a higher price for services.

Owners should investigate the financial status and reputation of any individual contractor before signing a contract. Good contractors are capable of designing and installing satisfactory systems of the smaller sizes when using the data of their trade associations and, to avoid gross errors, the use of these data as the basis of design should be called for in the contract. However in small installations, since economy tests and equivalent temperature tests at the completion of the job are expensive and not always entirely reliable, it is best, so far as possible, to obviate the necessity for them by selecting a good contractor and insisting on equipment of proper size.

### Sales Representatives of Manufacturers

To accept the assistance of a sales representative or a manufacturer in designing a heating system *is against every interest of the purchaser.* The business of the manufacturer's representative is to sell equipment and *as much equipment at as large a profit as possible* for his employer. Most sales agents, whose livelihood is dependent upon selling equipment, receive a commission only, and the sole qualification required of them is a willingness to take a handful of descriptive literature and go to work. They cannot be trusted for any professional or economic function whatever. The wise consumer will not assume that an exception is somehow going to be made in the case of *his* heating plant.

### Purchase Contracts

All purchase contracts for heating and ventilating systems or equipment should be carefully examined to assure the protection of the purchaser's interest—and should clearly designate the following: the specific conditions of outdoor temperature, etc., under which the appliance or system will give a definite result; the cost of operation; the purchase price of the complete appliance or system and the manner of payment; the period during which the seller will agree to replace defective parts of workmanship without additional charge. Such contracts should also contain all of the representations and inducements originally made and offered by the seller in his original proposal as understood and relied upon by the purchaser for his choice of contractor and/or equipment, including all claims of special economy, convenience, etc. It is well to include the following clause in all contracts: *The complete proposal of the contractor, including all data, illustrations, representations, guarantees, and other items pertinent to performance, size, and capacities of equipment, together with this agreement, form the contract and they are as fully a part of the contract as if hereto attached or herein repeated.* Frequently

each item coming under the above is identified in further detail and attached to the contract. This cause, however, will cover the current literature and advertising of the seller at the time the contract is made.

Insist on the inclusion of the following provisions in the contract (and on the exclusion of contrary statements) and insist that these provisions shall have been carried out before making final payment:

"The system shall be __*(give type)*__and shall be complete and ready for use in every detail, and in operation. It is guaranteed by the contractor__*(insert name)*__to heat all parts and every room in the structure identified as__*(state residence or otherwise)*__located at__*(give street, number, city, state)*__to a uniform inside temperature of __*(usually 70 degrees, bathrooms 80 degrees)*__ at an outside temperature of __*(usually 15 degrees above the lowest recorded for the locality—data obtainable from the United States Weather Bureau, Washington, D. C.)* __The above results or their equivalent shall be obtained at a maximum rate of fuel consumption not exceeding__ *(—— lb. fuel per sq. ft. of grate area, gal. oil, or cu ft. gas)*__per hour. The contractor__*(insert name)*__will replace free of charge or cost of any kind, to the owner any and all parts of the system which may fail through defective workmanship or material within a period of one year from date of accepted installation, which year shall entirely include one full heating season."

Contracts for cooling systems should provide for a temperature reduction of not less than twelve degrees and a relative humidity not exceeding fifty-five per cent at the maximum outdoor temperature and humidity conditions occurring in the locality, and should also state the cost of average daily operation at the electrical rate available to the purchaser of such equipment.

### Financing

The easy financing schemes and time payment plans of many contractors and heating equipment companies are questionable, and in practically all cases, money can be saved by using the facilities of a bank or of a building and loan association and paying the contractor as the work proceeds. The rates of interest being no greater (they are usually less at a bank), a definite advantage lies in the possibility of retaining fifteen per cent of the payments due the contractor until the system has been tested and proved satisfactory. Heating contractors customarily obtain cash on deferred payment contracts, secured by notes, by selling them outright to a "finance company." The proper functioning of the installation thereafter is a matter of no financial concern to the contractor, and the consumer has, therefore, no one to hold directly responsible for satisfactory operation of the plant and may have no recourse, except to go to law—a course made particularly difficult by the shrewd construction of most installment contracts. Above all, sign no paper or statement releasing the obligation of the contractor, or stating that you accept and declare the installation or system to be entirely satisfactory, unless you have thoroughly tried it out under severe conditions. Systems satisfactory in a mild season may be seriously deficient in a cold season.

**A Common Sense Testimonial**

"So Gary Cooper says: 'It's common sense for me to prefer Luckies.'

"That's truthful advertising!

"For the same amount Gary received for that statement it would be common sense for me to smoke ragweed and I have hay fever! But who cares about *my* common sense?"

—A letter to *Advertising Age* from Bob Louden of the Louden Machinery Company

# THE BUYING AND RESTORATION OF OLD FURNITURE

*By*

STERLING W. EDWARDS

THE wise purchase and restoration of old pieces are two subjects of which many buyers have little or no knowledge. The following data are intended to guide the prospective consumer whose desire for the utility and beauty of American colonial furniture (and its later reproductions) is not accompanied by an extensive knowledge of construction, woods, and finishes.

It is not intended here to consider periods, phases or regional characteristics of furniture produced from early colonial times to the Civil War period, nor to justify the furnishing of the dwelling place with old pieces as more suited to the American tradition than the oriental wood hideosities (at unjustified prices) or the chromium-plated steel-pipe offerings now stocked by many department stores. Rather, it is believed that certain simple rules and cautions may enable the consumer to safeguard his purchases and the subsequent restoration (if needed) of old pieces.

Some sources of supply for low or reasonably priced old pieces are:

1. Antique shops in small towns (especially in villages twenty-five to one hundred miles from a large city) or in old farming communities, in which the shopkeeper is himself a skilled restorer.

2. Cabinetmakers and restorers who carry little stock but often have sources of information concerning wanted pieces; who have time to talk, and to explain their methods and procedures.

3. Secondhand furniture stores which occasionally trade in a good piece that may be bought reasonably.

From Consumers' Research *Bulletin*, January, 1934

4. Householders desiring modern furniture who will sell old pieces from their homes.

5. Farm or town sales not cluttered with city buyers for large antique firms.

6. Storage warehouse sales and freight sales.

Included in the technique with which it is necessary to be familiar in order to wisely select old furniture from among the fakes, counterfeits, improperly restored pieces, unsound pieces, useless articles, and items which cannot be restored except at a prohibitive price, is an acquaintance with *woods* and *finishes.* Salesmen in furniture departments usually have little knowledge of woods and, with the advance of sales techniques and increase of high-pressure tactics, it is becoming more and more difficult to get what you pay for in furniture, *unless you know your woods.*

When one considers that the family investment in wood furniture often ranges from $1,000 up, it seems a reasonable measure of economy that the member of the family who does the purchasing should at least become acquainted with woods. A knowledge of furniture construction is also important.

The real antique-lover knows his woods and materials through his hands as well as through words and descriptions. One of the best methods of understanding the finish of fine old furniture is to reproduce the process yourself. Every boy, whether destined for a white-collar future or not, should have an opportunity of learning this much about wood. It is an excellent project, moreover, for group study, for high school or college students, home economics groups, or women's clubs.

1. Procure from a cabinet shop or restorer 1 x 12 x 24-inch pieces (old wood) of the following lumbers, used by colonial cabinetmakers: Eastern white pine (Weymouth, white, punkin), mahogany, walnut (new walnut is fairly light brown), maple (with some figures such as curls or birds-eyes in it if possible), and cherry.

2. If they have no finish, have them sanded on both sides or do it yourself.

3. Wash them down. (Explained later.)

4. Study the top, end, and side grain, the color; try to mark it with fingernail. Plane off some shavings and study them. Spread a drop or two of water on the sanded surface; the appearance of the wet place will show what varnish or shellac finish would look like. Smell the wood and rub it with fingers. Rub with folded rag until wood shines.

5. Mark each piece across the width into four equal parts with pencil. On each piece mark the areas *A, B, C, D.*

6. On all *A* areas apply an *Oil Finish:* Buy one pint *boiled* linseed oil. Add one tablespoonful pure turpentine dryer and stir. Paint on oil with brush and let stand twenty minutes, wipe off thoroughly and let dry twenty-four hours. Repeat for five more coats. Place wool rag around scrubbing brush and shine as much as possible. (This approximates the oil finish of the colonial worker.)

7. On all *B* areas apply two coats of above oil in manner explained. After drying, scrub on with a brush the following wax: one-eighth pound *genuine* beeswax (from drugstore or an apiary); the older the wax the better. Shave fine with a sharp knife and cover with turpentine. Shake occasionally, add more turpentine if necessary until wax dissolves, making a jelly-like wax. Dip scrubbing brush wrapped with clean, white, wool rag in wax, wipe off excess and shine, using pressure. Repeat several times at six- to twelve-hour intervals until a dull, rich finish is secured. (This approximates the wax finish of the colonial worker.)

8. On all *C* areas apply two coats of oil, as explained under *Oil Finish.* After drying, apply six coats of a half-and-half mixture of white shellac and alcohol (drugstore). Allow forty-eight hours for each coat to dry. Before next coat, rub down with slight pressure, using size 000 or finest steel wool. If the shellac finish scratches, rub with rag dipped in linseed oil and rottenstone, discarding wool. (This

approximates shellac finish on old pieces.)

9. On all *D* areas apply two coats of oil as explained under *Oil Finish.* After drying, apply one coat of shellac, as explained in paragraph 8, and then apply three coats of rubbing varnish (forty-eight hours between coats) in dust-free room. Each coat is rubbed with 000 steel wool, and the final coat with rottenstone and linseed oil. (This approximates old varnish method of colonial times.)

10. Each of the five boards now shows four different finishes, and within this range will generally fall all finishes on old pieces or the finish which should be applied to a restoration. The woods are not stained, however, and since most cherry and mahogany *is* stained, turn these two boards over and divide each across the width with a pencil line. Buy one package of *Dakalite* Medium Mahogany, No. 130, Red (Dakalite Products Co., Minot, North Dakota) and apply a light coat and a dark coat to each wood. Finish each in the shellac finish mentioned in numbered paragraph 8, applying oil as explained.

The foregoing serves as a first step in learning to know furniture finishes and woods in relation to the purchasing of old pieces. It also follows that the knowledge gained will be useful in the purchase either of reproductions or of modern furniture. With these samples the consumer is prepared to study his own household pieces, those of close friends, and those he contemplates purchasing.

### Washing

The methods employed by restorers to clean down to bare wood before repairing and refinishing are simple and within the range of the man of the house, particularly if he has some knowledge of tools and sufficient leisure time. Of course, not all pieces require restoring; some need refinishing only, and frequently a badly damaged piece, bought cheap, has possibilities of complete restoration. Assume that a recent purchase, namely, a chest of drawers, is to be

restored at home—carcass, veneer, and drawers in good condition; varnish crazed and unsightly. To *wash down* proceed as follows:

1. Paint on successive coats of varnish remover, allowing each to set for fifteen minutes. Drawers to be removed and treated as separate items. Lay remover on with single strokes so as not to disturb paraffin film, which protects the varnish remover from too rapid evaporation.

No more remover need be applied when the finger tip can feel the rough wood through the softened finish (four to ten coats). Test the piece at various points, applying more remover if needed.

2. Dissolve one cup of a neutral soap in one bucket of hot water and briskly scrub off old varnish from top down. Work out of doors. Use more neutral soap and water if needed. Carefully clean off with putty knife parts that do not wash. Use pointed match for mouldings, etc.

3. Re-wash with brush and hot water, scrubbing briskly.

4. Repeat with cold water and, if now clean, allow to dry forty-eight hours; then sand.

### Contracts

Have only skilled and experienced cabinetmakers submit estimates on restoration. Compare these. It is often the practice, having found a good restorer, to continue to do business solely with him. In selecting one, get references from banks, other customers, examine work in progress, note shop equipment, inquire about insurance, or insure your piece yourself if valuable.

Have specified in a written contract the nature and quality of the work to be done, price, time of delivery, guarantee of quality and amount of finish, woods to be used, privilege of inspection, etc. A list of items to be agreed upon in a contract for the restoration of an old walnut table, with drop leaves, rule joints, drawer, and veneered top, is included here. It should serve as an example for contemplated

restorations.

1. New burled veneers to be properly applied to top and leaves. Four pieces with matching figures to be applied to top; two pieces to leaves; all to be properly matched.

2. An old-wood inset to be made on broken rule-joint.

3. Three old hinges in good condition, similar to present rusted ones, to be applied.

4. Leg to have diamond inset of old and matching grain over hole, and small holes to be burnt in with matching shellac stick.

5. Drawer to have new birch slides, glued, and walnut pull to be fitted.

6. Table to be washed, sanded, filled, given six coats pure shellac and alcohol.

7. Insurance.

8. Final finish to appear as per sample.

9. Old veneers to be carefully removed and returned. (They can possibly be used on another restoration.)

10. Finish to be clear, brilliant, with no scratches, and guaranteed against "haze" for two winters. If finish fails to hold up, to be refinished in specified manner without charge.

11. All above to be done in most workmanlike and finished manner for the sum of _____ due on delivery _____ (date).

It is impossible to give a list of prices for refinishing old pieces, and due regard should be paid to cost of restoration by anyone not doing the work himself. Condition of finish, construction, wear, amount of veneering, replacements, cracks, broken joints, worn out upholstery, etc., are factors determining cost. Joints, etc., should be restored to original condition; repairs by means of angle iron, metal rods, wood screws, braces, etc., should be eliminated when possible. (When buying, note amount of metal bracing on newly restored pieces.) In general, the dealer sells *at the highest*

*price he can get.* Simple colonial pieces (restored) are, approximately:

1. Chests, pine ---------- $20 to $40
2. Chests, mahogany ---------- $25 to $60
3. Tables, cherry or mahogany---------- $20 to $40
4. Ladder-back chairs ---------- $4 to $25
5. Beds, maple, four posts, excellent ones. (By calling a department store before purchase, ascertain if spring and mattress can be bought in standard size to fit.) ---------- $15 to $30

**Selection**

It is not regarded wise to purchase by mail, sight unseen. A week-end trip by auto may be planned to purchase and carry home a piece from a town within two hundred miles. It is not at all difficult to transport within the sedan or coach, or on running boards, bumpers or trunk rack, such items as tables, chests, chairs, desks, etc. Prospective purchasers should provide ropes, straps, and old bed covers to protect and fasten such pieces, not forgetting to travel slowly, and occasionally to examine fastenings. And in driving with such pieces on a car remember to allow for the extra clearance required in passing people and other cars and trucks. There will be special danger in any projecting parts or legs of tables, etc., in driving at night.

Crating and shipping charges considerably increase cost of pieces delivered by freight.

Purchase of expensive "museum pieces" may preclude the acquisition of other needed articles of furniture for families of moderate income, and a number of such pieces increases considerably the personal tax, if you pay one.

In examining an old piece of furniture, it is wise to observe the following precautions:

1. Pull out and examine all drawers, their fittings, slides, and dovetailing.

2. Turn a table upside down on another table—examine

hinges, joints, test firmness of legs, and note wear around feet.

3. Beat upholstery, determine age and tension of springs, gimp, etc. Ask price of new material.

4. Examine glue joints for dowelling, mortise work, pinning, etc.

5. Look inside carcasses for wear on drawer slides, stops, pulled or cracked panels.

6. Examine wood under veneers for cracks, kind of wood, repairs.

7. Old furniture should have rigidity of construction, good finish and appearance, evident utility. Historic value, sentimental appeal, and pedigree should be secondary characteristics.

8. Determine if veneers are separating from the basewood.

9. Get approximate cost on refinishing if needed. (An item at $10 may not be a "buy" if restoration costs $85.)

10. Consider adaptability to intended setting. (A cherry chest of drawers may not be suitable in a colonial bedroom of curly maple pieces.)

Thousands of dollars have been foolishly spent and hundreds of shoddy antiques have been sold to the unlearned and unwary. The family planning to furnish with, or acquire, American colonials or later pieces would do well to plan a winter of reading and study on the subject. A long list of reference works may be found in most libraries. The following books are helpful and some contain excellent bibliographies:

*Measured Drawings of Early American Furniture*—Osburn.

*Principles of Woodworking*—Hjorth.

*Reproduction of Antique Furniture*—Hjorth.

*Furniture Masterpieces of Duncan Phyfe*—Cornelius.

*Modern Cabinet Work, Furniture and Fitments.*—Wells and Hooper.

# WOOD FLOORS AND THEIR MAINTENANCE

*By*

E. KAESTNER

WOOD FLOORS can be either things of beauty or eyestores in the home—they can be a costly expense or among the cheaper elements of the maintenance of the home. Most homes built today in the cities or their suburbs have oak floors in the living rooms, sun parlors, and dining rooms. The kitchens and bedrooms often have pine floors, although most of the more expensive homes have oak floors in the bedrooms. These floors are laid over sleepers or an underflooring. The latter should be laid in a diagonal relationship to the top flooring. In purchasing a house or having a new floor installed, it is well to see that the sub-floor or underflooring is not laid parallel with the top floor, for the boards will warp or cup and become squeaky due to irregularity in the subfloor or to the fact that it has been impossible to nail flooring securely.

If you are laying a floor, it is desirable to use tongue and groove flooring not less than 7/8 inch thick; many more sandings or scrapings can be obtained without the necessity of having a new floor laid. In addition, this type of flooring will stay tighter, be more impervious to moisture, and permit less dirt and cold to penetrate through from the cellar than will a 3/8-inch type. In homes that have pine floors, the pine should be edge grained (that is, the dark lines or grain in the wood run fairly straight and are narrow) instead of flat-grained pine in which the grain is wide, flat, and "wavy." An edge-grained pine is harder and does not dent readily while the flat-grained pine is considerably softer, shows every mark, and is hard to maintain. Flat-grained hardwoods do not present this difficulty, but are

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generally considered to have a somewhat less pleasing appearance.

If floors have become scratched and dull, it is not always necessary to have them rescraped. Rescraping advances you one step nearer to the necessity of having new floors laid and is expensive in comparison to the cost of merely cleaning and refinishing. When a floor is level, with no warped, cupped, or uneven boards, it may be cleaned and refinished in the following manner, *if the boards have a coating of shellac on them:*

Rent a polishing (not a sanding) machine with a brush diameter of thirteen inches if possible.

Get a pound of No. 3 steel wool (the rope form of the steel wool is easier to place on the brush) for each medium-sized room to be cleaned, and a quart of denatured grain alcohol. Clear the room of all furniture; then wash the floor with warm water and an alkaline or neutral soap. (Do not use a "soap powder" which is too strongly alkaline.) Then wash with clear water after the soapy water, but do not use any more water than necessary.

Next set up the polishing machine with a wire brush. Make a pad as flat as possible with one-half of a package of steel wool, and place under the wire brush. Next mix the alcohol half and half with water (do not use straight undiluted alcohol). Sprinkle the dilute alcohol over the floor; then start the polishing machine. In going over the surface with steel wool, do not go closer to the baseboards or walls than about one foot, else they may be scratched or splashed. Use steel wool by hand in the corners and where the machine does not go. When the floor has been thoroughly scoured with steel wool, wash clean with clear water. Before refinishing, let the floor dry thoroughly for at least three hours with the house warm. When dry, shellac the floor with a wide brush.

If there is varnish on the floors, and they are dark and discolored, do not under any circumstances use alkaline

varnish removers, sold as dry powders, since they darken the wood. Liquid varnish removers of the organic type (marketed as volatile liquids of pronounced odor) are satisfactory to use because they do not darken the wood. (It must be remembered, however, that such organic solvents are highly toxic or inflammable or both and they should be used with extreme caution, and only where there is good ventilation.) Rescraping is the only means of restoring the natural wood color to a discolored varnished floor. Bleaching after using a varnish remover only injures the wood more.

### Scraping or Sanding of Floors

In the event that your floors are in too bad a condition to be cleaned satisfactorily, they should be scraped by a professional floorman. In obtaining a floorman, select a man whose trade is that of a floor layer and scraper, and not a painter or roofer who may have failed in that line of business and has decided to become a floorman by renting a machine and learning on your floors. As a rule, a flooring or lumber dealer, if he does no floor work himself, can recommend a man whose work can be trusted.

Before the floorman comes, measure the rooms and multiply the length by the width to get the square footage. After the floorman measures the rooms check your figures with him; some will measure the room in order to quote a footage price and add on footage to make up for a low price per square foot. It is hard to name a universally fair price per square foot which a floorman may ask. Four cents per square foot in the city is a rate at which a floorman can afford to rescrape an old floor and refinish with shellac and make a fair profit on his work. In the country or fifty miles away from a large center, one man holds he must charge six cents per square foot in order to make the same profit as the city floorman, due to the greater overhead and time lost in carrying on a job in thinly settled areas.

There should be a complete understanding at the time of the estimate as to whether the closets, halls, and door saddles are to be scraped, and the home owner should insist on knowing what grits of paper the floorman will use. If a No. 4 or No. 3½ grit paper is to be used first to take off the old finish, a No. 2½ or No. 2 should follow, then a No. ½, and finally a No. 0 or No. 2/0 paper should be used. On a pine floor, however, a No. ½ paper is as fine as can be used to finish with, as any finer paper will clog due to the pitch in the wood. It is of the greatest importance that sandpapers of the finenesses just listed be used because, if an attempt is made to do the job with a smaller selection of grades, the floor will not be smooth and even and will be in a condition to be scraped again within a year due to dirt getting and staying in the rough floor and ruining the finish. After the floor is finished, see for yourself, by looking *along the floor toward the light*, if there are any waves or scratches visible and if the edges along the quarter round or baseboard are smooth and match the center of the room. If not, insist that the faults be corrected.

### Floor Finishes and Floor Refinishing

Today seventy per cent of the floors in large cities are being finished with shellac, twenty per cent with sealer, ten per cent with varnish. For many homes, on hardwood, oak, or on pine, fir, or spruce softwood floors, shellac is one of the most serviceable finishes. An oak floor filled with pure (silex) paste filler after scraping, then covered with three *thin* coats of pure five-pound-cut white shellac, and then waxed with a good grade of paste wax at four-month intervals should stay in excellent condition for a minimum of six years. In selecting a shellac, care should be taken to see that five-pound-cut *is marked on the can.* If a five-pound-cut shellac is not to be had, buy the highest cut available or have a five-pound-cut shellac made up to order by a painter's or floor supply house. In some locali-

ties, a four-pound-cut is more usual in stores. Purchase from a dealer who has a brisk trade in shellac, since this material will deteriorate after six or eight months in a sealed can standing on a dealer's shelf and, if used then, will cause the floor to become dark brown when applied. (Shellac put up in glass does not deteriorate in this way.) If possible, purchase the shellac from a floor supply house instead of a hardware, paint, or department store, since a floor supply house sells shellac in large quantities and buys frequently. The comparison in price today for a five-gallon can of five-pound-cut shellac is $2 to $2.50 per gallon in hardware, paint, or department stores and $1.15 to $1.25 in floor supply houses.

In purchasing alcohol to thin the shellac, only 188 proof, No. 1 solvent, denatured alcohol should be used. The price of this grade over the No. 5 solvent, which is sold in auto supply stores, is only ten to twenty cents per gallon greater, but it assures your not spoiling your shellac, which is far more expensive.

Shellac should be applied in thin coats, cut with at least one quart of alcohol to one gallon of five-pound cut-shellac to produce a four-pound-cut. On new work, to aid penetration of the first coat, a two-and-one-half-pound cut (produced by adding four quarts of alcohol to the five-pound-cut shellac mentioned above), may be used. If only one other coat is to follow, the second may be used as five-pound-cut without dilution, in order to buil dup a surface coating. When more than two subsequent coats are to be applied, all should be diluted to a four-pound-cut or less.

The brush used should be wide enough to cover three two-inch boards at one stroke, so that there is less difficulty with lap marks. Always apply shellac with the grain of the wood, in long and even strokes. The first coat on a newly scraped floor will take fifteen to twenty minutes to dry in an average-sized living room on a dry day. When dry, either rub with steel wool, or sandpaper lightly by hand;

then sweep the room out before applying the second coat. The second coat should be left to dry about two or three hours, then gone over with steel wool or sandpaper. Sweep out before applying the third coat, which should be left overnight to dry if possible; if this is not feasible, it can be walked upon in about three hours. If a floorman is shellacking the floors, check his material with him carefully to make sure that he is not using shellac substitute—which looks well enough when freshly applied but will wear or chip off within three to six months.

Do not apply wax to the floor until eight or ten hours after the last coat of shellac has dried, else the solvent in the wax may affect the shellac. Under no circumstances use the so-called "no rubbing" or water emulsion waxes on a newly shellacked floor, as the water content will turn the shellac white and may cause it to blister. "No rubbing" or water waxes will not last over a month and are very expensive in practice. They are not really free from the need to be rubber; indeed, they must be polished in order to make the floor shine, else they will show a white film.

If varnish is the finish desired, an oak floor should be paste-filled so that the varnish will not darken the floor in the course of a year or two. Varnish takes from twelve to fourteen hours to dry, depending upon the temperature and humidity. Care should be taken that only a good grade of *floor varnish* is used, as cheap varnishes will scratch and "check" within a short time after being applied.

In the past four years, penetrating floor sealers have come into prominence, pushed on the consumer by high-pressure sales methods and more or less impossible claims, although some of the advantages of sealers are real and not to be classed as pure salesmanship. Wood is made up of cellular fibers not unlike a honeycomb, formed by the natural growth of the tree. The sap of the tree is held in these cells or fibers, and as the tree grows, new cells are formed and the old dry out and contain only dried out sap

and air space. When the lumber is milled, these minute cells are exposed to the surface of the flooring and remain open until covered by some finish. A penetrating seal fills the open wood cells at the surface of the boards and seals the wood against dirt and temporary contact with moisture, without forming a thick layer over the wood. Purely surface finishes, such as shellac and varnish, will wear off more quickly and expose these open wood cells to dirt and moisture. While a penetrating sealer may show wear in places subject to heavy traffic and much walking, such as doorways and narrow hallways, wood treated with it can be cleaned and more sealer applied in the worn places without showing lap marks in the finish (as would be the case if shellac and varnish had been used).

In large apartment houses and institutions where the floors receive extraordinarily hard wear, a penetrating sealer is quite desirable because it can be cleaned satisfactorily without rescraping. This is an important matter, since after six scrapings have been carried out, the owner will probably be confronted by the necessity of laying new floors.

There is more work required in preparing a floor for sealing than with other finishes, for the floor must be sanded perfectly. Any marks or unevenness of work will show very distinctly after penetrating sealer has been used. For a fine job, the floor must be gone over with steel wool by machine between coats of sealer and polished after the last coat. A floor-sealer fiinish is damaged by water which darkens it. Floors treated with sealer should preferably not be washed, but if great care is taken they may be washed by using lukewarm neutral soapsuds, then lightly going over with clear water. Steel wool and a little wax will remove most stains or dirt from the floor. Penetrating sealers are alcohol resistant.

The cost of having floors scraped and sealed properly by a floorman who has had experience in this work is usually

seven to eight cents per square foot. The charge for re-cleaning and polishing at the end of two years or whenever needed will be about two and one-half cents per square foot.

In the past three years there has been a great deal of renting floor finishing machines by home owners in order to finish their floors. Hardware stores advertise machines at a rental charge of $3 to $5 per day, and the consumer figures it will be but a few dollars more to scrape and finish his own floors. Assume that the home owner intends to finish a living room, dining room, and an entrance hall, measuring 400 square feet, and that he lives in a suburb of the town where he will rent the machine for say $4 per day. There is an extra fifty cents or $1 charge for delivery of the machine, if he hasn't a car. It will take the novice two or three days to do his finishing if he has not seen a machine operated. If the machine is not returned by five P.M. another half day rental is usually charged. Sandpaper is extra, and for his job it may take $5 worth at the exorbitant rate charged by the sheet. If he strikes nails protruding in the floor, he will waste a sheet; and if the proper grade paper has not been chosen, he will gum up and ruin many sheets with varnish (if it has been used on the old floor). He must buy a handscraper to clean the edges of the floor, or in the corners and under radiators, as no machine will do this, thereby adding the cost of the scraper and blades at seventy-five cents to $1. If he hasn't a shellac brush, one must be purchased; a four-inch to six-inch width brush, which should be used, cannot be purchased any cheaper than from $2 to $3. The shellac needed will cost from $3 up, depending upon the place of purchase, and there will be sixty cents for alcohol. By adding the above items, one discovers that it costs from $20 to $25 for the home owner to do the job himself, and then, unless he is skilled at the job, he has no assurance that his floors will be smooth or even.

If he has damaged the sponge rubber pad on the rental machine, he is liable for at least $5 more for its replacement to the machine owner. If an experienced floorman does the job, it costs (at the rate of four cents per square foot) about $16. He can tell pretty accurately in advance what the cost of the job will be. The local hardware and paint store owner, who has invested $200 in a rental machine, may not be perfectly frank in telling you that it may be cheaper to have your job done by a floorman, for he can rent you his machine and sell you sandpaper at 300 per cent profit; then there are shellac and various extras at 100 per cent profit, with the possibility that if you cannot successfully finish your floors, or if you spoil them, he can earn a commission of another $5 by having a friend of his in the floor finishing business do the job for you, finally.

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*Editors' Note:* This discussion of the difficulties of the householder's doing his own work applies chiefly to people living in big cities. Small town folk, on the whole, have retained their ability to do such work satisfactorily, themselves. This article should not be interpreted as discouraging house owners who have the aptitude and manual skill from finishing their own floors, particularly if they will take pains to read and follow available directions carefully. You may wish to ask your public libraries for books and government pamphlets on the care and maintenance of floors.

**A Forthcoming Feature for Movie Goers**

Beginning with the November issue of *Consumers' Digest,* this publication will extend its rating services to motion pictures. Inasmuch as the overwhelming majority of Americans are more or less regular patrons of the movie houses, this service should prove to be an indispensable guide to the millions of consumers of our greatest entertainment industry.

The great majority of our 80,000,000 weekly movie-goers select their movies blindly. Probably all of them would testify to the disappointing results of such willy-nilly decisions. *Consumers' Digest* will present, for the first time in the history of the motion picture industry, a thoroughly comprehensive and reliable guide to the worth of currently shown pictures. More than five hundred films will be rated in the November issue of this publication.

This service should be especially welcomed by educational and religious groups all over the country.

Be sure to get a copy of the November issue of *Consumers' Digest* containing this outstanding service to consumers. On sale on newsstands of the American News Company, October 25th.

# *SHOULD YOU JOIN AN AUTO CLUB?*

*By*

MORRISON COLLADAY

YOU look at the young man's card and shake your head. "I'm a member of the American Automobile Association. I'm not interested in joining any other club."

He airily waves your objection aside. "Splendid organization. Most of our members are also members of the A.A.A. We don't attempt to compete with them in their field. All we claim to do is to save you half of your automobile expense and reduce your chance of having an accident."

You smile cynically. "I've heard those stories before. I'm not interested."

"You don't mean that. What you mean is you don't believe me. Isn't that so?"

"Well, perhaps it is. Nobody can cut my automobile expense in half."

"That's better. Now you're putting it up to me. That's what I want you to do. I want you to say to me, 'Prove it.' "

"All right. I'll listen for five minutes."

The young man produces a sheet of paper and a pencil.

"How much gas do you use a week?"

"Between fifteen and twenty gallons. Say eighteen."

"O. K. We save you two cents a gallon. That's thirty-six cents a week. $18.72 a year. . . . How often do you have your oil changed—once a month?"

"About."

"And your car takes seven quarts. We save you five cents a quart on any kind of oil. That's $4.20 a year. . . . You have your car greased once a month?"

You nod.

"That costs you anywhere from a dollar to a dollar and a half. Our members pay only the actual cost of the grease used, about a quarter or thirty cents. We'll be conservative and say we save you a dollar a month. That's twelve dollars a year. Now we'll suppose you have your car inspected once a month and put in A1 shape—brakes equalized, all minor repairs made that don't require replacement of a part. How much do you suppose that service is worth?"

"Probably three dollars a month on the average," you figure roughly.

"It doesn't cost our members anything. We give you an inspection sheet each month showing the actual condition of every part of your car. All minor repairs we make, and any major repairs requiring replacement of a part are noted on the sheet for you to take care of when you see fit. With your cooperation your car is kept in perfect condition—no chance of your steering gear going bad or anything of that kind. That's how we reduce your chance of having an accident seventy-five per cent."

"You are promising a lot. What does membership cost?"

"Wait a minute. I haven't finished yet. You are also entitled to emergency service twenty-four hours a day. If your car runs into the river we'll pull it out; if you get a flat tire we'll change it; if your gas line gets stopped up we'll fix it; if your car gets wet and won't start, we'll start it for you. . . . Now you're probably thinking all this costs about a hundred dollars a year, aren't you? Well, it doesn't. It costs a dollar a month—twelve dollars a year for all the services I have described and many others besides. You'll save more than that on your gas discount alone."

"It's absurd! You couldn't possibly do it."

"We've been doing it right here in this town for seventeen years, and some of our members have belonged to the club from the beginning."

You shake your head. "There must be a nigger in the wood pile somewhere. If you do all you say, why isn't everybody a member?"

"I'll tell you why. A lot of people are suspicious, like you. We offer to show them how we do it, but they won't listen."

"Well, I'll listen. Show me."

"That's the way I like a man to talk. Now we run our own garages. The greasing of your car, the minor repairs included in your contract, the emergency road service, our own mechanics take care of. We give you two cents discount on gas, but we still make two cents and do ten times as much business as we would at the full price. We give you five cents a quart discount on any kind of oil. The highest-priced Pennsylvania trade-marked oils advertised at thirty-five cents a quart are sold to us at eighty-five cents a gallon. On every gallon we sell, after giving you your discount, we make a profit of thirty-five cents. When you break down on the road, we'll haul your car to any garage you desire us to for repairs. However, ninety per cent of our members have us do their general repair work. Prices for such work are standardized, and they figure we'll do a more careful job than the ordinary garage because if a member's car breaks down on the road we'll have the trouble of going after it. . . . "

It all sounds good. You probably give him a check for twelve dollars. What's wrong with it? Nothing much. The service described is being given in a number of cities with reasonable satisfaction to the club members. Usually members are allowed to purchase tires and supplies at a discount, ranging from ten to twenty per cent from the list prices. Why then aren't there such clubs everywhere, with practically all motorists members? Principally be-

cause the members don't take advantage of their privileges. They refuse to go out of their way to buy gas at the club stations. Then the emergency service is frequently slow. If the club has two wreckers and two repair wagons, and after a storm twenty calls for road service come in in an hour, some members are going to get very impatient before their needs are taken care of.

However, the main reason why these clubs are not more successful is the bad name given all automobile clubs by the racketeering organizations which have been mulcting the motoring public for years, and which for some reason it seems impossible for the law to reach.

How can you tell the racketeering organizations from the legitimate ones? There is a fairly sure test. If the club is a local enterprise and owns its own garages, the chances are it's legitimate. If on the other hand its headquarters are a thousand miles away, the chances are it's a racket.

These clubs have various ways of working. A few years ago a concern calling itself the National Automobile Service Corporation—"Nasco" for short—sent a crew of high pressure salesmen into New Orleans. They sold two-year contracts for twenty-eight dollars, payable in advance. These contracts offered all the advantages the legitimate clubs offered, and many additional ones, including free legal service. The organization signed up garages in all sections of the city to contracts providing that its members should receive gas and oil discounts. The garages signed these contracts with the idea that the additional business they would do would more than offset the discounts.

New Orleans is a city of small businesses run on small profit margins. Most of the proprietors of these businesses bought memberships for their trucks and cars. The Nasco people are said to have taken two hundred thousand dollars out of New Orleans. When the city had been thoroughly canvassed they closed their local office and the sales-

*Now ready!*

CONSUMERS RESEARCH

# Annual Cumulative Bulletin 1937

The *Annual Cumulative Bulletin* represents a fairly complete summary of the reports and tests made by and for Consumers' Research on many of the products which you use every day. These products are listed by brand name as *Recommended, Intermediate,* and *Not Recommended* and are conveniently grouped in 15 sections, including food, automobiles, textiles and clothing, household appliances, radio sets and musical instruments, cameras and film.

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*A Special CR Edition of*

# "GUINEA PIGS NO MORE"

*by J. B. Matthews*

GIVE a thought to the guinea pig. In reality, although he lives and has his place in the world, he is but a symbol—a symbol of something used for experimentation. He can't do anything about it, he is only "A South American rodent, commonly white, variegated with red and black."

Consumers have been guinea pigs in many ways. But they *can* do something about it. Lack of knowledge, a scarcity of information and just plain apathy have been the stumbling blocks. At long last consumers are becoming conscious of their economic strength as *consumers.*

Who are consumers? What about the future of the consumer? Are the interests of workers and consumers identical? Would the "worker's state" concern itself with better actual living or only a higher wage scale? How does the consumer's interest differ from that of the so-called public welfare? These questions and many others dealing with consumer problems are dealt with exhaustively in "Guinea Pigs No More."

The consumer movement needs clarifying; it needs an objective; it needs a literature, a background for thought.

"Guinea Pigs No More" was written for just this purpose. Calmly and lucidly, it appraises the various phases of being a consumer and presents that needed background for the development of a philosophy. It is essential reading for all who are thinking of consumer problems.

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# REFRIGERATORS

# RAZOR BLADES

# FURS

What razor blade now on the market is consistently best?

What refrigerators give the best value for the money?

What about furs? What do names mean? How do you know what you are getting?

The answers to these questions will appear in CONSUMERS' DIGEST in the near future and are only a small part of the facts and information these issues will bring you. A partial list of products recommended and articles in coming issues, besides the above, follows:

*Gas Stoves*
*Electric Lights*
*Rouge*
*Lipstick*
*Nail Polish*
*Cigarette Lighters*
*Razors*
*Briefcases*
*Percolators*
*Women's Slips*
*Playing Cards*
*Towels*
*Neckties*
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men disappeared. In a few weeks the garages that had signed discount contracts, discovering that there was something wrong, refused to give further discounts. There was no one to provide any other of the services promised, so the members received nothing for the twenty-eight dollars each had paid.

You might think that after this experience it would be impossible for similar clubs to work New Orleans successfully. As a matter of fact, there have been invasions by four such clubs on the average each year since the Nasco debacle. None has had such a spectacular success as the Nasco, but each has gotten away with anything from twenty thousand to a hundred thousand of New Orleans' cash without giving anything in return.

How do they fool people over and over again?

Each succeeding club has a new scheme and each offers a little more for the money. Then each time the prospective member figures, "This one must be all right. These fellows wouldn't have nerve enough to tackle us with another fake. They couldn't keep out of jail."

And they do keep out of jail. How they do it is one of the mysteries that so far has not been solved. Of course, their standard excuse, when a member cries "Fake!" is that the club is not responsible for misrepresentations made by its salesmen. However, their contracts are so speciously worded to mislead the prospect and make him believe he is getting things he is not getting, that a reasonably diligent district attorney would have little difficulty in proving that salesmen and employers were engaged in a conspiracy to defraud.

In New Orleans one of these concerns, after skimming off the cream, sold out to a couple of local men who continued to operate. Perhaps these new men didn't have the right political connection. At any rate they were finally arrested by the local authorities. They were only little fellows and it is doubtful whether they were making much

money. In New York some of the local racketeers, seeing a good thing in a club which the promoters were trying to run halfway honestly, kicked the promoters out and took over the club themselves. They didn't even pretend to give the service they contracted to give, and the police finally stepped in.

So far as is known to the writer, these two instances are the only ones in which the authorities have made any effort to protect the public.

You say a man must be a fool to pay a stranger twenty-eight or thirty-six dollars for a lot of promises. But the proposition always looks good the way it is presented.

"Mr. Brown, my name's Blank. I've called to see you about your automobile insurance."

Mr. Brown makes one of two answers. "I'm already carrying insurance," or "No use talking to me, I can't afford insurance."

When he gets the first answer Blank says, "I know you are, but I can save you two-thirds of your premium."

When he gets the second answer, he gives a nice little talk on the danger a small business man runs of being wiped out by a judgment obtained against him as the result of an accident in which his car or truck is concerned. The small business man knows all about that and is interested in insurance at one-third the usual premium.

In any case he asks, "How do you get around the insurance department regulations?"

Blank replies, "Smart lawyers fixed that part all right. We're incorporated as a club. When you join you get your insurance on the payment of your dues. We've figured it out so the dues cover the premium. That's the way we get around the law. We have our own lawyers, and they're the smartest in the country. They take care of our members if they get into any kind of trouble. If you're arrested for manslaughter, for instance, the club will put up bail for you up to ten thousand dollars, and the club lawyers

will defend you without its costing you a cent."

"It sounds pretty good if it's all you say it is," responds Brown. "How much will it cost me for my car and truck?"

"Let's see—coverage for your car would cost you about fifty dollars a year, and the truck seventy dollars. A hundred and twenty dollars. For two years it would be two hundred and forty. That's right, isn't it?"

"Huh, that's not saving me anything. I can get insurance anywhere for that."

"Sure you can," says Blank. "That's what I was figuring for you. Now with us your two-year membership costs you thirty-six dollars for the car and thirty-six for the truck. That's seventy-two dollars instead of two hundred and forty. Does that look good to you?"

It looks so good that a reasonable proportion of the prospects fall for this newest scheme, even if they have been defrauded before.

How does the salesman convince the prospect that he is getting what has been offered?

This is how. The contract the prospect signs contains columns of fine print like the ordinary insurance policy. It is so cleverly worded that it is unintelligible except to a person with a trained legal mind. In addition he is given a number of impressive looking legal documents. One is what is known as an authorization for a bail bond not to exceed ten thousand dollars. This is worded like all the other contracts so it involves no enforceable obligation against the club. Among these papers is a personal accident insurance policy of the type issued by a number of companies for a dollar a year and usually given as a premium with magazine subscriptions. This the club has bought for one dollar, and it is the only actual expense it is ever put to for its members. The new member is usually so favorably impressed by the sales talk backed up by these legal documents that he cheerfully gives his check. The salesman tries to have the check made out to cash. If he

turns in one made out to the club, he has to wait thirty days for his commission. Payment is stopped on such a large proportion of checks for membership that the club takes no chances.

Of course if the club is lucky, no claims are made on it until after it has finished working the city and the salesmen have departed to greener pastures. However, salesmen are apt to scatter promises around recklessly when they see a prospect getting away. They may say, "If you smash up your car the club will have it repaired for nothing, and if you smash some other guy's car we'll fix that too. Your insurance covers everything."

If the luck's running bad, some new member will crumple a fender or break an axle. He'll hustle down to the office and report it. Then the sales manager will have to keep him satisfied until the sales crew is ready to quit town.

But why are people fools enough to believe a salesman they know nothing about?

One reason is that he's a good salesman and can make people believe him or he wouldn't be in this particular business. Another is that he actually is selling the one-dollar accident policy and must therefore have a license issued by the state insurance department. These licenses are supposed to be issued only to thoroughly reputable men after a careful investigation. The club in some unexplained way gets these licenses for all its salesmen without any trouble and without investigation. The prospect when he sees this license feels that he is dealing with an individual vouched for by his state insurance department.

The scheme of this particular club has been presented in detail. Each club has a different one. All are alluring and practically all are fraudulent. No legitimate plan can be made sufficiently attractive to coax dollars out of a prospect's pockets.

Any estimate as to the total amount of money collected annually by these pseudo automobile clubs and for which

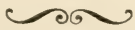
they give no return would be pure guesswork. It certainly runs well into the millions.

Isn't there any way to protect a public that is too gullible to protect itself?

There would be if the game weren't so profitable. Where the loot is so big, the promoters can afford to distribute a fair proportion of it where it will do them the most good.

Chambers of Commerce, district attorneys' offices and police are almost invariably too slow in acting to apprehend the promoters before they have left town, even when the stink raised by the defrauded natives smells to heaven.

The clubs are usually incorporated, so the Federal Trade Commission, if it would move fast, should be able to reach them with cease and desist orders. Where they use the mails, fraud orders should put them out of business.



## Will

I am writing of my will mineselluf. that dam lawyer want he should have too much money; He ask to many answers about family. First thing i want i dont want my brother Oscar get a dam ting i got. he is a mumser he done me out of forty dollars fourteen years since.

I want that Hilda my sister she gets the North sixtie akers where I am homing it now. i bet she dont get that loafer husband of hers to broke twenty akers next plowing time. gonoph work, she cant have it if she lets Oscar live on it. i want i should have it back if she does.

tell momma that six hundred dollars she been looking for for twenty years is berried from the backhouse behind about ten feet down. she better let little Frederick do the diggin and count it when he comes up....

Momma the rest should get but i want it that Adolph should tell her what not she should do so no more slick irishers sell her vokum cleaners. dey noise like hell and a broom dont cost so much.

i want it that mine brother Adolph should be my execter and i want it that the jedge should please make Adolph plenty bond put up and watch him like hell. Adolph is a good business man but only a dumkopf would trust him with a busted pfennig.

i want it dam sure that schliemical Oscar dont nothing get. tell Adolph he can have a hundred dollars if he prove to jedge Oscar dont get nothing. dat dam sure fix Oscar.

Herman Obleweiss in *West Publishing Company's Docket*

# *TOBACCO—A HABIT FORMER?*

*By*

RUSSELL C. ERB, EDITOR of *The Catalyst*

A SEARCH for pleasure takes precedence over guarding against bodily risks in many of the various forms of human behavior. Man thinks first of the enjoyment he can derive from this and that; primarily he is a pleasure seeker and an immediate-pain-avoider. If a substance will produce a feeling of well-being, a sense of contentment or physical exhilaration, it may be utilized by man regardless of the evil consequences that may follow. Opium and its derivatives have been used from early times for the pleasurable condition they produce, although they are definitely poisonous. We have seen how, to the user of alcoholic liquor, the toxic effects of ethyl alcohol are completely overshadowed by the pleasing effects. There is still another large industry that dispenses a pleasure-producing product containing toxic constituents that are known to be harmful. That is the tobacco industry.

Tobacco is the leaves of *Nicotiana tabacum*. It is a flowering native of the northern part of South America, but it has been extensively cultivated since early times by the aborigines of both North and South America. The plant was brought to Portugal during the middle of the sixteenth century from Tobaco (from which the word "tobacco" is derived), a province of Mexico, and was carried to France in 1560 by the French Ambassador to Portugal, John Nicot (from whose name the word "nicotine" originated.) On his return from Cuba in 1492, Columbus brought cigars to Spain.

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From Professor Erb's forthcoming book, *Poisoning the Public*; Dorrance and Co., Inc., Philadelphia

The main constituent of tobacco which possesses toxicologic interest is the poison, nicotine, present in the tobacco in amounts from 1 to 10 per cent. Several other alkaloids have been isolated from tobacco; namely, nicotimine, nicoteine, nicotelline, nornicotine, and nicotianine. While nicotine exists in all parts of the tobacco plant, it is principally found concentrated in the leaves. Pure nicotine is an oily liquid, either without color or yellowish, which gradually becomes brown on exposure to air and light. It has an exceedingly acrid, burning taste and acquires a tobacco-like smell. It is dangerous even to taste pure nicotine, for it is rated as deadly as hydrocyanic acid.

Nicotine is taken into the system through smoking the tobacco, chewing the tobacco, or through snuffing the pulverized tobacco as was once the vogue even among men and women of the highest social classes. "Smoking" is by far the most common manner of nicotine ingestion today.

The method of smoking directly influences the amount and nature of the poisonous substances. Probably pipe smoke contains the most nicotine and its related alkaloids; the cigarette the least. Most of the tobacco used for pipe smoking contains less nicotine than does the tobacco used for cigars. The pipe, however, acts as a distillation plant. The smoker supplies the draft. The heat developed by the burning tobacco in the bowl distills much of the nicotine into the smoke without combustion. The unburned nicotine condenses along the cooler stem of the pipe in the form of an oily substance holding, in addition to the nicotine, tarry substances, such as pyroligneous acid and pyridine bases. Some of these are drawn into the mouth by the smoker and are absorbed through the mucous surface. Some of this substance that fails to condense is also inhaled with the smoke. A "strong" pipe is one in which the stem has a high accumulation of condensed nicotine and its tar-like companions. An ideal pipe would be one with an arti-

ficially cooled bowl and a stem holding a removable and replaceable absorption cylinder to filter out of the smoke stream as much as possible of the toxic ingredients of the smoke.

During the smoking of a cigar or cigarette there is a more complete combustion of the tobacco than in the pipe. The fact that a cigar or cigarette burns more readily, while a pipe needs frequent relightings, suggests a better state of combustion in the former. Fortunately for the health of the smoker, most of the nicotine is burned. The cigar burns more slowly than the cigarette. Its burning surface is greater than in the cigarette and therefore the unburned tobacco more closely approaches the zone of combustion and gets hotter than in the cigarette. Cigar smoke carries more volatilized nicotine than cigarette smoke. Nevertheless, cigar smoke contains less of this poisonous nicotine than the smoke from a "strong" pipe. Fat cigars, because they have a greater burning area and consequently get hotter, have more unburned nicotine in the smoke than thin cigars. In fact, the thin cigars more nearly approximate the cigarette in this respect.

The cigarette would be the least harmful form of smoking were it not for the fact that there is always a strong and almost uncontrollable tendency to inhale. Although the smoke from the average cigarette contains less free nicotine, cigarette smokers inhale the smoke which thus increases the absorption of nicotine. The inner lung surface has an area about five hundred times greater than the whole body surface. Again the ease with which cigarettes can be smoked makes it possible for both young and old to take tobacco more or less continually throughout the day and consequently be continuously under the influence of the alkaloid. The chemicals that may be used to cause the rice paper of a cigarette to burn slowly, although they are themselves toxic, have a somewhat compensating effect on

the nicotine. Mentholated cigarettes, now becoming popular, contain the organic phenol called "menthol." (Phenol [carbolic acid] is one of a group of substances, many of which are poisonous, some very dangerously so.) Menthol is an irritant substance with toxic powers, and there is certainly the best of reason to believe that its continual inhalation may cause harmful effects.

There are certain indications that nicotine is habit forming, while there are also certain contradictory indications showing that the use of tobacco can be discontinued even abruptly. There is no great physiological demand for any definite dose of nicotine from tobacco. Therefore, there is no definite physiological reaction when the use of nicotine is suddenly discontinued. A man becoming interested in some unusual type of work may go without smoking his pipe or cigars for quite a long time without noting any particular craving for the customary indulgence. In the true habit-forming narcotics this is not the case; in these instances, depriving oneself of the narcotic causes an increased and uncontrollable craving.

The concentration of nicotine varies in different smoking mixtures and in different species of tobacco and even in the same species when grown under different conditions of soil and climate. Quoting König of the German Tobacco Research Institute at Forchheim, light-colored brands of tobacco are often milder in nicotine content than the darker kinds. The so-called "strong" cigars often have less nicotine than the "mild" ones. Cigars have from 1 to 3 per cent nicotine, although exceptional brands have a nicotine content up to 5 per cent. American, English, and French cigarettes have from 2 to 3.5 per cent and Egyptian cigarettes, from 1.2 to 1.5 per cent nicotine. In general, tobacco used for pipes contains less nicotine than does that used in cigars. Some other common varieties of tobacco have the following nicotine content: Havana tobacco, 1 to 3 per cent;

Virginia and French tobacco, 6 to 7 per cent; and Turkish tobacco, about 2.5 per cent. Macedonian tobaccos can be obtained containing less than 0.5 per cent nicotine, or even less than 0.35 per cent—so low in fact that no rise in blood pressure can be noted after smoking. The most poisonous part of a cigar or cigarette is the butt or stump, since this portion holds most of the condensed nicotine.

It is the nicotine that is found in the smoke that is the effective alkaloid. Of the total nicotine in cigarette tobacco, 60 per cent is burned during smoking; 27 per cent escapes into the air on exhalation; and only about 12 per cent is absorbed by the smoker. A certain amount of nicotine is always sure to be volatilized and, failing to be properly condensed, passes off with the hot smoke. Storm van Leuwen has investigated the actual nicotine content of cigar smoke collected under conditions comparable to those that prevail in the actual performance of smoking. He states that neither the nature of the tobacco nor its nicotine content can be used as an index to the amount of nicotine in the smoke.*

Besides nicotine, tobacco smoke has been found to contain carbon monoxide, carbon dioxide, hydrogen sulphide, hydrocyanic acid, quinoline, ammonia, furfural, phenols, pyridine, and irritant aldehydes. Carbon monoxide was demonstrated in tobacco smoke. The blood of habitual smokers may contain carbon monoxide hemoglobin. In a heavy smoker there may be a condition of chronic carbon monoxide poisoning. A person who is not in very good health may find it worth while to avoid whenever possible riding in smoking cars where there is a notable concentration of carbon monoxide.

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* *Editor's Note:* Swiss experiments have shown that (1) with short thick cigarettes there was twice as much nicotine as in the long thin ones; (2) with loosely packed cigarettes there was about 30 per cent more nicotine than with the closely packed; (3) more nicotine came from dark-colored tobacco than from light. Increased speed of smoking increases nicotine intake.

All of the constituents of tobacco have toxic properties in themselves. Some of these extraneous substances may be removed by drawing the smoke through water as in the "hookah." This solubility of tobacco products means also, of course, that some of the tobacco smoke may be dissolved in the saliva and then swallowed. Spitting helps to prevent this form of poison absorption. Tobacco smoke is capable of being almost completely detoxified by activated charcoal; i.e., drawing the smoke through a mass of cotton wool impregnated with special adsorbent charcoal.

W. E. Lee (1908) tested the relative potencies of cigars and cigarettes as follows:

A Manila cigar and a cigarette of Virginia tobacco of nearly double the strength of the Manila tobacco were burned so that the same amount of tobacco in each was consumed at the same rate. The smoke of the cigar made of weaker tobacco was almost twice as toxic as that from the cigarette.

Smoke from tobacco may be reinhaled and cause additive toxic effects. It is especially bad to smoke constantly in a poorly ventilated room. So-called "smokers" where a large group of people are smoking in a room surcharged with exhaled smoke have pronounced effects on the metabolism, which is usually noticeable the following morning. Those who lead an open-air or outdoor and active life can smoke much more than those who remain indoors.

It is always of interest, in considering processes of mild poisoning, to consider what happens when the pure, strong poison is consumed. When pure nicotine is ingested in poisonous doses, symptoms of an acute toxemia become evident. These symptoms include a hot, burning sensation in the mouth, which extends down the esophagus to the stomach, salivation, nausea, vomiting, occasional purging, diarrhea, mental confusion, vertigo, great muscular weakness with twitching, restlessness, excitement, cramps, sen-

sation of sweating, heart action disturbed, palpitation, faintness, photophobia, and disturbances of sight and hearing. As is well known, some of these symptoms are regularly experienced by the novitiate in smoking, for example, the boy experimenting with his first cigar. As the amateur smoker becomes an habitué, symptoms of acute (immediately or quickly developing) poisoning either vanish or become latent. In their places, evidence of chronic (slowly progressing) poisoning appears.

In those who use tobacco in excess, chronic poisoning by nicotine from smoking or chewing tobacco is indicated by an irritation, limited in area of occurrence, of the upper respiratory tract, redness of the pharynx, chronic cough, and expectoration. Chronic tobacco users always have some degree of deranged digestion with a bad breath. The normal hunger contraction of the stomach may be inhibited by smoking (Carlson and Lewis). Nevertheless, serious disorganization of health is surprisingly rare in tobacco users. The most common occurring disturbances are palpitation of the heart (tobacco heart) and a peculiar shortness of breath. In exceptional cases, loss of sight due to optic neuritis may be the outcome of chronic poisoning from nicotine.

There is no agreement as to the fatal dose of nicotine. Commercially, nicotine finds rather extensive use as a germicide and an insecticide. There is an incident in a Southern factory where nicotine was prepared as an insecticide. A workman moistened the end of a matchstick with the commercial nicotine and swabbed it into a cavity of a tooth that had caused him pain. He died several hours thereafter. A celebrated French poet died in fourteen hours after swallowing the contents of his snuff box, which had been mixed with his wine as a "practical joke." Some authorities place the lethal dose of nicotine at 30 to 60 milligrams (about 0.45 to 0.9 grains). Habitual smokers may

tolerate as high as 20 milligrams of nicotine an hour. If a person has diabetes, smoking has an undesirable effect because of its increasing the blood sugar concentration, and on that account doctors often advise that the patient give up smoking or greatly diminish the amount of his indulgence.

When women adopted the habit of smoking, the question arose as to the harmfulness of nicotine for pregnant and nursing women. In experiments conducted at Antioch College, L. W. Sontag and R. F. Wallace found that when a mother smokes heavily before the birth of her child, some of the toxic substances in the tobacco smoke which makes the heart beat faster are transmitted to the unborn child and causes similar symptoms therein. It is their conclusion that it is "not improbable" that maternal smoking before birth may have permanently harmful effects on the child.

**Kolynos Ordered to Cease and Desist**

The Federal Trade Commission has ordered the Kolynos Company to cease and desist from making certain false and misleading representations in connection with the interstate sale of Kolynos tooth paste.

Among representations prohibited in advertising are that Kolynos tooth paste conquers bacterial mouth allegedly caused by germs which attack tooth and gum; cleans and polishes teeth down to the naked white enamel and erases and removes tartar; gives teeth a double cleansing not to be obtained with ordinary or other dentifrices, and restores all teeth to sparkling or natural whiteness.

The company also is ordered to cease representing that Kolynos tooth paste is new or totally different from other dentifrices; does for the teeth and gums what ordinary or other dentifrices cannot do, and is "the approved" tooth paste or "the" antiseptical dental cream, in the sense of having been approved or recommended by dentists or the purchasing public to the exclusion of other tooth pastes and dentifrices.

# CARBON PAPER

ALL the major typewriter companies manufacture various grades of carbon paper to meet the requirements of their special machines. Equally good carbon paper of various grades can also be obtained from a number of manufacturers and jobbers of typewriter supplies.

The most durable carbon paper is made from imported linen rag tissue. It is of especial importance to use a durable stock when manifolding with tissue or onionskin on top, on a hammer-stroke machine, to avoid punching out of the small round letters, such as "o" and "c." Obviously, where medium to heavy typewriter paper is employed for a top sheet, a less expensive grade of carbon paper may be used. There is no way to judge the quality of carbon paper from its appearance. Because all-rag paper stock is expensive, the highest grades of carbon will cost several times that of the lowest grades.

Economy in carbon paper is had by buying the right weight and the right finish for the particular job at hand. Light and extra light weights (usually more expensive) should be used *only* when an unusual number of copies is required. For ordinary work—one or two copies—use what is called "standard" or medium weight. Soft finish gives an intense black copy but not sharply defined. Hard finish gives a sharper copy that tends to be somewhat gray instead of jet black. Hard finish is used with hard typewriter paper, to reduce trouble with smudging; soft finish with soft paper. For best work on the *Noiseless* typewriters, use a soft finish, or a special finish made for *Noiseless* machines. The wide variety of practically identical brands and the small differences between them do not warrant extensive tests, which would be costly. Listed below are a few good brands.

From Consumers' Research *Bulletin*, September, 1937

RECOMMENDED

*Carter's Midnight* (Carter's Ink Co., Chicago) $4.50 per 100 sheets. All-linen rag stock. All weights and finishes. Writes well, durable. Easily identifiable by astronomical design on back of each sheet—a safeguard against substitution of an inferior grade. Correspondence weight specially recommended because of durability where only one or two copies are required.

*Cleangrip* (H. M. Storms Co., Brooklyn, N. Y.) $3 per 100 sheets. Coated on an all-rag stock. Writes well, durable. This carbon is manufactured so as to minimize curling.

*Red Writing Hood* (The Ault & Wiborg Co., Cincinnati) $3.50 per 100 sheets. High-grade carbon coated on rag stock. Ingenious backing sheets provided with each box are believed to give greater wear to this carbon and improve the presswork. The most satisfactory device on the market for making a large number of copies at one writing; the hooded backing sheet greatly reduces the likelihood of "treeing," often troublesome when a large number of copies is made.

*Regal* (Remington Rand, Inc., Buffalo) $3 per 100 sheets. All-linen rag stock. All weights and finishes. Writes well, durable.

*Remrandco* (Remington Rand, Inc.) $3 per 100 sheets. Made on an all-linen rag stock. All finishes and weights. Writes well, durable.

***That Mystic Name***

"The public has long shown its willingness to pay from $1.34 to $1.75 for a 32-cent bottle of witch hazel under some mystic name."

from a letter to *The New York Times*

## CHAMOIS SKINS

THERE is scarcely an article of commerce today more widely varying in quality, more subject to misrepresentation, or sold under a greater variety of trade names than chamois skins. The term is loosely, and improperly, applied by many vendors to a large number of skins, sold for polishing purposes, which are by no means chamois. The two general classes of genuine chamois are the domestic and the imported, the latter mostly French. In a test the French skins showed an average of over twice as much absorption capacity, and a definitely higher speed of absorption, than the domestic skins; the latter, however, were on the average nearly twice as strong as the French. It follows that domestic skins are more suitable for severe use, whereas for operations in which moisture-absorbing ability is particularly important, such as window cleaning or drying an automobile, the French skins are to be preferred.

The purchaser of a chamois need never be deceived by misrepresentation. One simple test will suffice to show if the material is a chamois or not. The Tanners' Council of America advises: "Let a few drops of water fall on the material; if it is genuine Chamois the water will disappear into the skin as though it were a blotter." This test should be applied to both sides, in case the grain side has been left on. On a dry skin, the pile or nap will sometimes require a few seconds to wet before the water is absorbed by the skin directly. After the pile has been moistened, the test data show that a drop of clear water should vanish into a French skin in less than two seconds and into a domestic skin in less than three seconds.

A skin with very thin areas is not a desirable purchase; inspect for this by holding it up to a very strong light. A chamois skin cannot be judged as to its quality by the

Condensed from Consumers' Research *Bulletin*, November, 1936

softness of the finish. A very linty skin should be avoided. If one purchases a genuine chamois, the wear will be satisfactory. The problem is chiefly one of avoiding substitutes.

Due to the concentration of the industry among a few tanners, and the multitudinous brand names under which chamois skins are sold, no favorable recommendations are made on the basis of brand. There is no standard price: skins are sold at widely varying prices determined by what the traffic will bear. A genuine chamois, however, of the usual 20 x 32-inch-hide size will probably not be offered for sale for less than $2.

Chamois skins are frequently ruined because of improper use and care. A chamois should not be used to wash with, but only to dry and polish clean, smooth surfaces. If used to remove dirt and grease, the pores fill up quickly and the skin loses its ability to absorb moisture and to leave a clean polish.

When washing a chamois, best results are obtained by using lukewarm water, never hot, and a liberal quantity of good, mild soap. The skin should be thoroughly rinsed, wrung moderately dry, pulled flat, and air dried. When dry, it should be gently rubbed to soften. Of course a chamois should not be used with chemicals or acids, and it should be kept out of contact with hot surfaces. On account of its sensitiveness to heat, it should never be dried on a radiator or close to a hot stove.

*Soothing Soap?*

A recent booklet on the purchasing of soaps and other cleaning agents says that olive oil castile soap is soothing to sensitive skins. The editor of Soap, a trade journal of the industry, makes the following graphic comment: "If any soap is soothing to any kind of skin, we will eat a bar of it while doing hand springs up Fifth Avenue."

# SOAPS FOR LAUNDERING AND GENERAL CLEANING

NEITHER the apparent bulk of the package nor the printed statement of "net contents" is a satisfactory basis for judging the economy of soaps, since they often contain a large amount of water—in some cases as much as one-third by weight—as well as "builders" and "fillers." Other soaps are fluffed with air to give them bulk.

"Builders" are usually alkaline substances, such as sodium carbonate (sal soda—washing soda), borax, silicates, etc., which enhance the action of the soap by softening the water and "cutting" the grease. These, though convenient where the soap is to be used in hard water, have the disadvantage that they introduce a real danger of damaging silks, woolens, and colored fabrics, or of irritating the skin and spoiling the appearance of the hands. Unfortunately, it is a generally valid rule that easy lathering and seeming enhanced effectiveness in use of soap go with harm to hands and fabrics. "Fillers" are useless cheapeners or makeweights, such as clay or chalk.

A considerable saving can be accomplished by buying soap in large quantities, e.g., soap flakes by the barrel.

### Precautions in Laundering

Prompt laundering of clothes is fairly important since clothes which remain dirty for a considerable time are harder to clean and may actually be injured by continued contact with foreign matter.

Wool differs from the other fibers in being sensitive to

chemical and physical abuses of all kinds, and must be very carefully laundered. It should always be laundered with a pure soap free from builders and at a temperature not much higher than body temperature (about 100 degrees Fahrenheit). Soap should be thoroughly rinsed out of woolen cloth as it may damage the fibers.

Synthetic fibers, such as rayon, etc., often lose their strength when wet. In some of the newer fibers, this fault has been overcome to a large extent. With synthetic fibers, a mild soap (free from builders) and a moderate temperature (about 100 degrees Fahrenheit) are desirable. They should be handled carefully, wrung only very gently, if at all, and dried without strain; do not stretch them with clothespins.

Silk is not as susceptible to alkalies as wool, but when wet it is more readily damaged by friction. It should be laundered very carefully and wrung out gently. Mild soaps and a moderate temperature (about 100 degrees Fahrenheit) are essential for silk, particularly fine silks such as hose and lingerie. Do not dry on a hot radiator.

Cotton and linen are less susceptible to alkalies and, if undyed, may be washed at higher temperatures (up to 160 degrees Fahrenheit) and with stronger soaps. They are injured by alkalies at higher temperatures.

Soaps usually have optimum temperatures at which they are most efficient. Cold water or low titre soaps should be used for low temperature laundering (such as laundering wool and silk) and hot water or high titre soaps should be used for high temperature laundering, such as used for laundering cotton.

Rinsing of the fabric is important. The first rinse should always be of the same temperature as the wash water. It should be soft water, if possible, so as to prevent formation of scum or gummy deposit on the fabric. The second rinse, however, should be ordinary water (if water softeners are used) to remove any excess of water-softening chemical.

Diapers should be finally rinsed in boric acid solution (about one tablespoon of boric acid crystals to a pail of warm water) and loosely wrung out. The boric acid not only helps to render the diapers antiseptic but also neutralizes the ammonia in urine, which often causes irritation.

* * *

Soaps may be roughly divided into those without (or with little) builders—that is, soap without other detergents —and those which contain builders. Soap powder is not pure powdered soap, but soap with a minimum of thirty per cent of builder (sodium carbonate). The alkalinity of the soap solution is important, as it is the free alkali which attacks wool and silk. While soaps in general are alkaline in reaction when dissolved in water, due to the water's causing formation of "free hydroxyl ions," soaps containing builders will be much more alkaline.

Ratings of soaps are based on chemical analyses, upon titre (solidification temperature of the fatty acids—mentioned previously) and the amount of suds produced, and upon "detergency" power. Except as noted, prices are per pound of dry (that is, usable) soap.

### Pure Chip and Bead Soaps

Chip and bead soaps are pure unadulterated soaps of the type ordinarily used for laundering fine fabrics, silks, woolens, rayons, and colored fabrics. They will not harm the hands unduly, and on that account may be considered desirable for dishwashing.

#### Recommended

*Kirkman's* Soap Chips (Kirkman & Son, Inc., Brooklyn, N. Y.) 19 cents. Solidification point of fatty acids somewhat too high for best laundering of wool and silk.

*Lux* (Lever Bros. Co., Cambridge, Mass.) 29 cents.

*Ivory Flakes* (The Procter & Gamble Co., Cincinnati) 30 cents.

*Ivory Snow* (The Procter & Gamble Co.) 27 cents.

### Chip and Bead Soap with Builders

Soaps with builders should not be used for laundering colored garments, silks, woolens, rayons, or other fine fabrics (*no matter what the manufacturer may claim on the box*). They can, however, be used for "rinse" (soaking without rubbing) laundering of ordinary white cottons and, possibly, badly soiled silks and woolens in lukewarm water, particularly if the water is hard. They are well suited for dishwashing and as a substitute for soap powders (which are not the same as powdered soap) when the latter are found to irritate the skin.

#### Recommended

*Selox* (The Procter & Gamble Co., Cincinnati) 18 cents.

*Octagon* Soap Chips (Colgate-Palmolive-Peet Co., Jersey City, N. J.) 18 cents.

*Super Suds* (Colgate-Palmolive-Peet Co.) Cost per pound of dry soap, large size 18 cents; small size 19 cents.

*Chipso* (The Procter & Gamble Co.) 17 cents.

*Octagon* Granulated (Colgate-Palmolive-Peet Co.) 21 cents.

#### Qualified Recommendation

*Sweetheart* Flakes (Manhattan Soap Co., Inc., N. Y. C.) 12 cents.

*Oxydol* Granulated (The Proctor & Gamble Co.) 19 cents.

*Rinso* (Lever Bros. Co.) Cost per pound of dry soap, large size 17 cents; small size 18 cents.

*White King* Granulated (White King Soap Co., Los Angeles) Cost per pound of dry soap, large size 18 cents; small size 18 cents.

*Silver Dust* (Hecker Products Corp., N. Y. C.) Cost per pound of dry soap, large size 19 cents; small size 21 cents.

*Concentrated Super Suds* (Colgate-Palmolive-Peet Co.) 20 cents.

*Kirkman's* Granulated (Kirkman & Son, Inc.) 20 cents.

**Ordinary Bar Laundry Soaps**

Bar laundry soaps contain builders and, in general, in laundering, should only be used for white cottons and linens.

RECOMMENDED

*O.K.* (The Procter & Gamble Co., Cincinnati) 8 cents.
*Kirkman's Borax* (Kirkman & Son, Inc., Brooklyn, N. Y.) 13 cents.
*Fels Naptha* (Fels & Co., Phila.) 14 cents.
*Octagon* (Colgate-Palmolive-Peet Co., Jersey City, N. J.) 12 cents.

**Soap Powders**

Soap powders (so called) are for rough general housework, such as cleaning floors, or for laundering coarse garments, such as overalls. They contain not less than thirty per cent soda ash to meet Federal Specifications. On account of soda ash content they are hard on the skin, and, for many people, are not suitable for dishwashing unless rubber gloves are worn.

QUALIFIED RECOMMENDATION

*Gold Dust* (Gold Dust Corp., N. Y. C.) Cost per pound of dry soda-and-soap mixture (ratio 2 to 1) 9.6 cents.

## WATER SOFTENERS

MOST consumers more or less unconsciously rely upon soap to soften the water in the bathtub, and in laundering operations. Unfortunately soap, which is most convenient in this double use, costs twenty-five times as much for a given water-softening effect as does washing soda, a common, cheap chemical widely used for this purpose in hard-water regions and for industrial water softening, and soap is in other ways

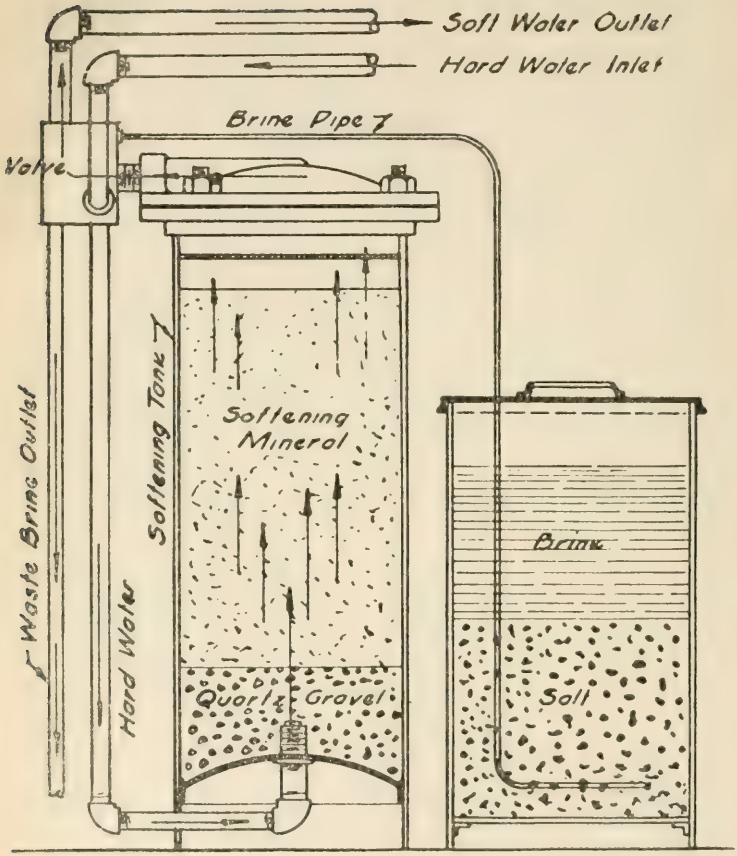
a far less desirable water-softening agent.

Certain special laundry soaps and hand soaps of the hard-water type are often used in hard-water areas, but they, too, are undesirable because they either depend upon the addition of a water-softening chemical or, in the case of toilet soap, upon containing a high proportion of coconut oil, which, of the common soap oils and fats, produces soap of superior lathering qualities but which is the most objectionable in its effect on the skin.

It seems to be the case that the consumer always pays directly or indirectly for superior lathering properties in soap. He pays either in that the soap made of oils favoring quick lathering are severe on the skin or, if chemicals are used in the soap, they soften the water inefficiently and, of course, at very much greater expense as compared with adding them directly. They too, if used in the more or less random fashion which will characterize any attempt to soften water with soap, will be hard on one's skin.

Hard water contains in solution certain mineral salts which react with soap to form chemical compounds which do not dissolve in water. The chemical action softens the water, but the compounds formed unfortunately appear as a scum on the surface, as a slimy ring around the basin, or sometimes even as a deposit on laundered articles. For most satisfactory cleansing, hard water should be softened *before* using. As an illustration of the economic loss caused by hard water, it has been shown that per capita cost of soap in Chicago Heights, Illinois, where the water is very hard, amounted to $7.50 per year, almost twice the cost in a soft-water region.

The two practical means of softening considerable quantities of water are: (a) the soda-lime process, and (b) the base-exchange, zeolite, or permutite process. The latter is probably the better method for home supply when the water is not turbid, or acid, or does not carry iron or manganese.




# WATER SOFTENER

Section of Typical Apparatus Used for Softening Hard Water

—Courtesy *Better Homes in America*

Besides softening the water, the zeolite or permutite process, when a ten per cent solution of sodium chloride is used for regeneration of the base-exchange material, also removes from the water any copper, zinc, or tin which may be present; if sodium nitrate is used for regeneration instead of the more usual sodium chloride, it will also remove a large part of the lead that may be present. Lead is often present in drinking water in very small proportions, usually less than one part of lead to a million of water, but even in those very minute proportions, it is a great and insidious menace to health. The only truly safe drinking water is water that contains no detectable lead at all.

The chemicals listed below may be used to soften water for laundering and dishwashing (not for drinking or cooking). The chemical should be fully dissolved in the water before adding any soap. A solution of the chemical (called a "stock-solution") kept in a bottle provides a convenient method of using and ensures that no solid particles of chemical shall come in contact with, and perhaps ruin, a fabric. For the proper amounts to be used in your area, consult your local waterworks, board of health, Chamber of Commerce, or high school or college teacher of chemistry. Or the consumer who is experimentally inclined may determine the amount for himself. (See *Tests for Hardness of Water and Efficiency of Softeners* which appears elsewhere in this issue.) If the total hardness of the water is known, or can be learned by test, or from local health officials to whom it is often a matter of importance, or from the waterworks' authorities, the amount of sal soda or of trisodium phosphate needed to soften one gallon of the water is easily computed. The hardness may be expressed in parts per million (ppm) of calcium carbonate (another common way of designating hardness is grains of calcium carbonate per gallon; 1 grain per gallon = 17 parts per million).

Each 80 degrees of hardness (expressed in parts per million of calcium carbonate) requires for one gallon of water to be softened, one teaspoonful (4.9 cc or 1/6 fluid ounces) of sal soda solution, made by dissolving one pound of sal soda in enough water to make 11 cups (88 ounces) of solution or one teaspoonful of trisodium phosphate solution, made by dissolving one pound of trisodium phosphate in enough water to make 8 cups (more exactly 66 ounces) of solution. A water-softening agent used in laundering will not be injurious to the body of a person wearing the clothes if used in proper quantities, that is, not in excess, and if rinsing is properly done.

### Recommended

Trisodium phosphate (tsp), sodium carbonate, or a mixture of the two in the proportions prescribed by the authorities suggested above.

### Qualified Recommendation

Sodium tetraborate or borax.

### Reference

*Water Supply and Treatment*, by Charles P. Hoover. (Available from the National Lime Association, Washington, D. C., at 50 cents.)

## TESTS FOR HARDNESS OF WATER AND EFFICIENCY OF SOFTENERS

THE principal importance of hardness in water supply is that it causes a waste of soap, since the first soap which is added in laundering or washing the hands is lost by forming insoluble compounds with the salts, such as calcium and magnesium sulphate, which are present in hard water. The insoluble compounds, moreover, produce

From the *Consumers' Test Manual*, containing many such tests, issued by Consumers' Research, at 50 cents

a troublesome curd that makes the cleaning of bathtubs and washbowls difficult and, where the water is hard as in many large areas of the United States, leaves deposits on laundered articles in a way which gives them an unpleasant appearance and feel. It is very much more economical to soften hard water with the use of other chemicals, such as trisodium phosphate or sodium carbonate, than with soap.

Natural waters have a hardness ranging from 3 to 800 parts per million of calcium carbonate. Water is considered hard, commercially, if it contains the equivalent of over 5 parts of calcium carbonate ($CaCO_3$) per 100,000 parts of water. (While it is customary to report hardness of water in terms of $CaCO_3$, actually this salt is practically insoluble in water!) Hardness is usually of two types:

1. Temporary hardness, which consists of bicarbonates of calcium and magnesium ($Ca(HCO_3)_2$ and $Mg(HCO_3)_2$). This is temporary because, upon boiling, the bicarbonate is converted to carbonate which precipitates out and so is removed from the water.

$$Ca(HCO_3)_2 = CaCO_3 \downarrow + H_2O + CO_2$$

2. Permanent hardness, which is caused by soluble salts, such as calcium and magnesium sulphates ($CaSO_4$ and $MgSO_4$), which are not precipitated out by heating.

### Tests for Hardness of Water

Add in an 8-ounce bottle containing 50 cc of the water to be tested, successive small amounts of standard castile soap solution (see below), shaking the bottle well after each addition, until enough has been added to produce a 1-inch layer of suds. The amount of the soap solution which was required to reach this end point is a measure of total hardness of the water. When the end point is reached, record the volume of soap solution used. Then add 0.5 cc additional soap solution and shake well. If the suds

disappear, the end point was the false or magnesium end point due to magnesium salts. Continue adding soap solution until the true end point is reached as indicated by permanent suds (standing up for at least five minutes). The number of cc of standard soap solution used, multiplied by 2, gives the hardness of the water expressed in terms of parts of $CaCO_3$ per 100,000. Multiplying the number of cc by 20 gives the parts of $CaCO_3$ hardness per 1,000,000.

*Standard Soap Solution:* Dissolve 50 grams of powdered castile soap in sufficient 80% alcohol (made by using 80 parts 95% alcohol and 15 parts water) to make 500 cc. Allow the mixture to stand overnight and pour off the clear liquid, and then standardize by using it to soften 50 cc of standard calcium chloride solution, following the general procedure which is described for testing hardness of water. Record the amount of soap suds required to produce a 1-inch layer of suds in the test bottle used for shaking the soap solution with the calcium chloride solution. Then treat similarly 50 cc of distilled water. The number of cc used for distilled water subtracted from the number used for the standard calcium chloride solution gives the number of cc actually necessary for 50 milligrams of calcium carbonate. Dilute the soap solution with an amount of 80% alcohol which is calculated so that 1 cc of the solution will be required to soften the hardness due to 1 milligram of $CaCO_3$ (contained in 1 cc of the standard calcium chloride solution). At least 5 determinations should be made and the average of these used.

*Standard Calcium Chloride Solution:* Dissolve 0.5 gram of calcium carbonate ($CaCO_3$) in 10 cc of dilute (10%) hydrochloric acid (HCl), and when it is entirely dissolved, add about 90 cc of distilled water

and sufficient dilute (10%) ammonium hydroxide ($NH_4OH$), drop by drop, until the solution just turns red litmus paper blue. Then boil the solution about a minute, cool, and add sufficient recently boiled and cooled distilled water to make exactly 500 cc. This solution contains 1 milligram equivalent of $CaCO_3$ per cc (1 part per 1,000).

$$CaCO_3 + 2HCl = CaCl_2 + H_2O + CO_2\uparrow$$

If quantitative work is not desired, but merely the comparison of two waters, a 1% (alcoholic or aqueous) castile soap solution may be used instead of the standard soap solution.

$$CaSO_4 + 2NaC_{18}H_{33}O_2 = Ca(C_{18}H_{33}O_2)_2 + Na_2SO_4$$

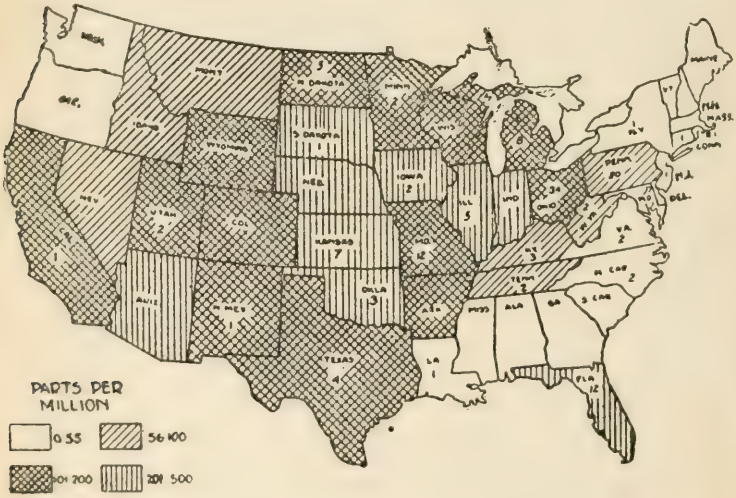
If it is desired to determine the temporary hardness and the permanent hardness individually instead of together, boil for 10 minutes an additional quantity of the water to be tested, cool, and filter (using filter paper and glass funnel). Treat 50 cc of this boiled water in the same manner as the unboiled water. The amount of soap solution required in this case is a measure of *permanent hardness.* This subtracted from total hardness equals *temporary hardness.*

The amount either of sal soda or of trisodium phosphate needed to make the water soft may be computed as follows: Multiply the number of cc of standard soap solution used in the test by 0.286 for sal soda ($Na_2CO_3.10H_2O$) or by 0.380 for trisodium phosphate ($Na_3PO_4.12H_2O$). The first product is the number of cc of 1% solution of sal soda necessary to soften the 50 cc of water and the second gives the number of cc of 1% solution of trisodium phosphate required. For simple household directions, see *Water Softeners* which appears elsewhere in this issue. As a check, add either one of these water softeners to 50 cc of the water, filter, and

add 1 cc of soap solution. Suds should be produced without further addition of soap.

**Comparative Efficiency of Commercial and Standard Water Softeners**

Dissolve 1 gram of each water softener under test in sufficient water to make a 100 cc solution of it. Add 10 cc of this solution to 50 cc of standard calcium chloride solution, filter, and treat with standard soap solution as in the test for hardness. Subtract the number of cc of soap solution from 50 (number of cc of $CaCl_2$ solution); the difference is the number of milligrams of $CaCO_3$ hardness counteracted by 0.1 gram of the softener under test. The water softener requiring the least soap solution is the most efficient. (If the addition of 1 cc of soap solution produces foam, repeat using a smaller volume of the water softener solution or a larger volume of $CaCl_2$ solution.)




Average hardness, by States, of water furnished by public supply systems in the United States. The numbers printed within the state areas are of no significance for the present discussion. (Map reprinted by courtesy of National Lime Association.)

# CONSUMERS AND THE LABOR MOVEMENT

*By*
CHARLES S. WYAND

YEARS ago I used to attend regularly the lectures of an old economist who, strangely enough, knew what he was talking about. Unlike most academicians, this venerable student had absorbed the best of the theoretical literature in his field, but had accepted none of it without first checking theory with fact. If the learned doctrines actually described economic life as *he* found it, he accepted them as valid. But if they failed to square with reality, he rejected them with fine scorn. As a result, the man was both unorthodox and stimulating. And his observations were shrewd and surprisingly accurate. He was one of those rare men who both loved and distrusted ideas. Consequently, he never promised to save the world and, therefore, never found it advisable after trials at remaking America to become an executive in the molasses business. He remained a student all his life.

One day this wise man was discussing mergers and combinations. After presenting the general characteristics of these types of organization, he concluded with the following observation which seems to have been justified again and again in recent years. "If you inspect reality, gentlemen," he said, "you will discover that most mergers are essentially predatory in character. While such combinations are frequently advanced in the name of altruism or mutual advantage, you will usually find that one of the merging units stands to profit at the expense of the others involved. The lion may find many good reasons for combining his interests with those of the zebra. The zebra may even believe that such a combination will strengthen his own position. But inevitably the zebra will learn that what was to be a merger has in fact become an absorption. Too late he will discover that he gains from the maneuver nothing

but the moral satisfaction of knowing that he has contributed to the lion's well-being. As for the lion, he is much too well fed and content to remember quite why the merger was desirable."

If such is the case, if mergers frequently do result in the exploitation of the weaker units in a combination, it seems worth while to inspect the arguments of those who in recent years have been clamoring for a union of labor and the consumer "for the preservation of mutual interests." Might it be possible that such a combination could adversely affect the welfare of labor, or of the consumer, or of both?

According to its exponents, a consumer-labor movement is desirable primarily because the interests of the two groups are identical. There are many spokesmen for labor who even go so far as to contend that anyone not a laborer is not a consumer. This is, of course, a patently absurd statement. For if by *labor* one means the wage earner, the vast salary-earning middle class would then be excluded from the ranks of consumers. On the other hand, if the term *labor* is thought to embrace all who work with brain or hand for either wage or salary, some people immediately object to the labor classification and want to exclude from the labor category all workers whose incomes exceed some such figure as $2,000 a year. But if an attempt is made to define labor as including none but the lowest income families, that portion of the population earning in excess of $2,000 a year is immediately excluded from consumer status (if labor and the consumer are identical because their interests fall together). We know, however, that most families with incomes in excess of $2,000 a year have economic interests that are predominantly consumer-oriented. We know also that any attempt to define consumers in terms of source, type, or size of income is unreasonable. For income is derived from productive activity. As such it may serve to distinguish types of producers, but it affords no

practically valid basis for the differentiating of consumers.

The exponents of a consumer-labor union, therefore, make their initial error in assuming that *consumers* can be defined in terms of their *producer* status. The result is just about as reasonable as defining dentists in terms of their fondness for rutabaga. It is of course true that most, if not all, wage earners are consumers. But so are most salaried workers and most professional people, too. The thing which seems to escape many people is the fact that, when we talk about income and the manner in which it is earned, we are discussing productive, not consumptive, aspects of life.

The leaders of organized labor at least profess to be unaware of the fact that producing wealth and consuming wealth are distinct economic functions which, if not antipodal, are certainly a very long way from being coincident. And yet organized labor as such tries to foster the welfare of its members by any means whatsoever. The tactics used almost invariably react to the disadvantage of *other people who are functioning as consumers.* For example, if the carpenters' local union strikes for a sixteen-dollar-a-day wage rate, the members of the carpenters' union gain as producers what the home-building consumer loses in the form of increased construction costs. Notice here that no distinction is drawn between wage-earning home builders and other types of consumers. *All* who would build must contribute their payments to the increased income of the organized labor group. The same is true in other lines. The steel worker's pay increase is contributed by the automobile buyer and the home-building consumer, and the textile worker levies on every person who buys clothes. We all recognize this primary producer-consumer conflict. We all know that organized labor is as producer-minded as the United States Chamber of Commerce and as little concerned in practice for the welfare of consumer groups. And yet few take issue with the labor leader who clamors

for coordinated action by labor and the consumer. Why?

Labor spokesmen try to answer this question by insisting that the consumer is morally responsible for the conditions under which labor must work. In the name of humanity, the buyer at retail is urged to reject any product manufactured under unfavorable working conditions and to patronize the producer who operates a closed shop. The real reason for labor's interest in the consumer lies, of course, in the fact that the consumer boycott is organized labor's most potent weapon. Organized labor in a strike may be defeated. Sabotage may be punished or its damage largely avoided. But the employer is helpless if the public refuses to buy his wares. The moral argument, therefore, merely covers the real reason for the consumer-labor movement. Labor seeks the consumer's help simply because labor knows that the consumer embodies the most powerful force he can bring to bear in his conflict with the employer.

But what will the consumer gain from such a pact? What has labor done, what is labor willing to do, to improve the consumer's economic position? What, "in the name of humanity," has labor granted the consumer? The answer is invariably "nothing." Nor could it logically be otherwise. For, as has been stated, labor organizations are producer groups seeking the enhanced welfare of men functioning as producers. As such they have failed signally to recognize any rights of or obligations to consumers. The history of the labor movement has been one long record of self-interest doggedly pursued at whatever cost to the buying public. If increased wages have meant increased retail prices, labor has never objected to the additional burden thus placed on the consumer. If deterioration of quality has been necessary, to cover up wage (and therefore) price increases, labor has readily consented to this invasion of consumers' rights. If potentially dangerous or economically wasteful products are to be produced, organized labor will produce them if wages are high enough and working con-

ditions bearable. There is no form of legal exploitation of the consuming public which labor has not been willing to condone for a price. There is simply no recognition of any interest but self-interest. And yet the labor organizer can be heard everywhere bawling his appeals for consumers to recognize their moral obligation to labor.

To argue that labor is not responsible for commercial policies is to evade the issue. If that argument has validity, certainly neither is the consumer responsible for the working conditions prevailing in some shops. But if the consumer can be expected to exert himself in labor's behalf, there is certainly no reason why labor should not recognize a corresponding obligation to the consumer.

However, as matters stand now, all attempts to combine the consumer movement and the labor movement seek nothing but the advantage of the *producing* group. Under its present leadership, labor is pursuing its own ends with a singleness of purpose rarely excelled. The consumer would, therefore, do well to remember that his interests are clearly distinct from those of any producer group whether it be of capital, business enterprise, or organized labor. And it seems equally clear that whatever improvement in his own position the consumer hopes to effect will have to be achieved by consumers working through consumer agencies. For no other organization, *least of all a labor union,* can be expected to sacrifice its own interests for those of so economically potent but inarticulate a group as the American consuming public.

**Watch for the November issue of**

***Consumers' Digest***

**containing ratings of more than five hundred currently shown**

**Motion Pictures**

**(see announcement on page 36)**

# GULLIBLE'S TRAVELS

September 24, 1937.

Snocum,
Cocoanut Grove,
Pacificania.

Dear Snocum:

Impervious and I are at it again — one of our periodic and much too heated arguments. This time it is over women. No hasty conclusions, now! We are not rival suitors — this time.

Our little debate has to do with what I call "sex as the mainspring of civilization." Impervious likes to call it "strip-tease advertising." He professes to find American civilization grossly hypocritical on the point of sex. On the one hand, he declares that Americans are moralistic to the extent of prudery and, on the other hand, that they surpass all other peoples in their use of sex to ring their cash registers. Sunday's sermonizing must not interfere with Monday's merchandising, he says. Well, Impervious was never much of a moralist himself, and he professes to be shocked at what he calls the silly irrelevance of using the strip-tease to sell cigarettes or bathroom scales or mine locomotives.

I see it differently. I find neither hypocrisy nor irrelevance in this highly developed American art of portraying the female figure in advertisements for every-

GULLIBLE'S
AUTO SUTRAVELS
Buy O.E.
SPARK PLUGS
Change them EVERY
10,000 MILES

thing. I say that if you can, by moving a man's heart, more successfully move your goods, you have achieved a fine coordination of the fundamental drives of civilization. After all, is it not true of American civilization, above all others, that it offers men the supreme happiness of a rapid movement of goods plus an acceleration of the age-old heart throb? To accomplish both the movement of goods and an increase in the appreciation of feminine beauty in the one act of selling is what I call genius.

The essential difference between Impervious and me is, I think, that I am a poet. When Impervious selects a toilet soap, his mind runs to prosaic analyses and to questions of alkalis, free fatty acids, and unsaponifiable substances — about which I know nothing and care less. I take the poetic approach, and when I read in an advertisement that a cake of toilet soap is a storehouse of "filtered sunshine" and behold a veritable Venus bathing in the nude, her body caressingly laved in the "filtered sunshine," I say that's the soap for me! Life is too short to spend any of it thinking about unsaponifiable substances in a soap when all about one is the beauty of summer skies, autumn woodlands, and utterly charming advertisements. Why should a lover of beauty care, anyway, about unsaponifiableness?

With a country full of male customers who, like me, take the poetic view of life and merchandise, it is easy to see how sex

acts as the mainspring of civilization. What about the women customers? Are they, too, moved to the selection of this or that commodity by the use of sex appeal in advertising? Indeed they are! With women customers, however, the appeal is one of identification. As you may well surmise, dear Snocum, not every American woman is a Venus. But most of them either want to be or fondly imagine that they are. Hence, they eagerly identify themselves with these glorious figures in the advertisements. When they see a Venus bathing, they see themselves bathing. This inspires hope and aspiration; and what would life be without these? Impervious, the prosaic killjoy, would tell them that the figures in the advertisements are what they are only when the tricks of modern photography generously assist Nature; that some of the beauty, in other words, is synthetic and done with lenses and contrivances and expedients of the photographic darkroom. Fortunately, for an innumerable host of women this is a language which their poetic hope would neither heed nor understand. Certainly no harm is done by filling advertising copy with suggestions on "how to get engaged this summer," "how to make his lips say 'darling,' " and "how to make him kiss with genuine desire." If Americans were really as moral sexually as they say they are and as they are taught to be in school and in Sunday School, their admen wouldn't write and the prospective customers would not read such advertising.

But both do, and this is one of the wonders of America.

I repeat that this whole business represents a fine coordination of the fundamental drives of civilization. The noise of a ringing cash register is sweet music to civilized ears; and if, in the ringing, you can stir men to new ambitions, thrill countless stenographers to a new vibration and self-appreciation, and rekindle hope in uncomely matrons, you have done something.

When advertisers of lingerie, corsets, hosiery, cigarettes, automobiles, books, perfume, soap, tooth paste, cosmetics, deodorants, laxatives, bathroom scales, headache medicines, and weight reducers know how to fill their "pockets full of sex pence" and, at the same time, spread so much happiness among the people, it is idle twaddle to speak of hypocrisy or the irrelevance of sex.

Again, I take my hat off to the Americans and say "bah" to Impervious, who thinks "allure" is something that applies only to fishing tackle.

Yours as always,

Since Consumers' Digest first appeared, teachers have been among its most enthusiastic readers. In response to their requests, we now have available a special teachers' service which is designed to assist teachers in presenting material on consumers' problems to their classes.

An outstanding feature of this service is a Teachers' Manual and Study Outline which is issued to accompany each number of Consumers' Digest. An effort is made in this outline to group the materials of the magazine in such a way as to permit their use under a variety of classroom conditions. The general subject heads are: General Science, Home Economics, and Social Science, and all subjects are discussed in accordance with their relation to these headings.

Special rates are quoted for all group orders of ten or more copies and a copy of the Teachers' Manual and Study Outline is sent free of charge with all such orders.

For further information regarding educational material, address School Service, Consumers' Digest, Washington, N. J.

# CONSUMERS' DIGEST

*Make Every Dollar*
*Do Double Duty*

# CONSUMERS' DIGEST

PURDUE UNIVERSITY LIBRARY

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AUTOMOBILES OF 1937

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¶ *Consumers' Digest* presents only *Recommended* products in its listings. It is to be noted that the absence of any brand from the *Recommended* list does not imply a non-recommendation.

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*Christmas Comes Just Once A Year!*

. . . . . ***But we'll send your Christmas gift every month.***

See the order form bound in this issue for special gift rates for *Consumers' Digest* and Consumers' Research *Bulletin*.

Vol. II November, 1937 No. 5

# CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

## PICKING YOUR PICTURES

MANY are the urban homes in which the question "What picture shall we go to?" is asked more than once a week. In small towns and in the country where there is no choice to be made among two or more theatres, the question so frequently heard is: "I wonder if the show is any good tonight?"

The great majority of our estimated 80,000,000 weekly movie-goers select their movies blindly. Probably all of them would testify to the disappointing results of such willy-nilly selections. *Consumers' Digest* presents, for the first time, with this issue, a tabulation of the consensus of critical opinion on more than five hundred currently shown motion pictures.

With the abundance of motion picture reviewing being done in newspapers and magazines, there has not existed, until the appearance of this summary of critical opinion, any single service which the movie-goer can put his hand on with the assurance that any particular picture he wants to look up will be included.

For a critical discussion of a particular picture, the movie-goer must still refer to the opinions of the individual reviewers. There is, however, a very considerable variation of critical opinion among reviewers of the best standing. A consensus of critical opinion is, therefore, likely to serve as a better and more dependable guide in choosing pictures than the opinion of a single reviewer, however competent.

The ratings of pictures given herewith are based upon an analysis of the reviews published in the following periodicals:

Boston *Transcript*, *Box Office*, *Christian Century*, *Christian Science Monitor*, *Commonweal*, *Cue*, *The Digest*, *Film Weekly*, *Harrison's Reports*, Hollywood *Spectator*, *Judge*, *Liberty*, Minneapolis *Journal*, *The Nation*, *The New Republic*, New York *Herald Tribune*, New York *Sun*, New York *Times*, New York *World-Telegram*, *New Yorker*, *News Week*, Philadelphia *Exhibitor*, *Stage*, *Time*, *Variety*, *Variety* (Hollywood), *Weekly Guide to Selected Pictures*, and the bulletins of the American Legion Auxiliary, Daughters of the American Revolution, General Federation of Women's Clubs, National Council of Jewish Women, National Legion of Decency, National Society of New England Women, Women's University Club of Los Angeles.

Films are rated "AA," "A," "B," and "C," which designate them as *strongly recommended, recommended, intermediate,* and *not recommended* respectively. The figures preceding each picture indicate the range of critical opinion regarding that picture as determined by an analysis of the reviews published in the aforementioned periodicals. Thus, "The Good Earth" is *strongly recommended* by twenty-five of these judges, *recommended* by four, and rated *intermediate* by one. The bold-type figure in each case indicates the predominating opinion. (In the cases of some of the listed pictures, it will be noted that the figures to the left are much smaller than others. This is due to the fact that at the time of our going to press, few reviews of these pictures have appeared in the periodicals consulted in this tabulation. The full list of pictures will be revised continually in succeeding issues of *Consumers' Digest*, newer titles replacing the older ones, and the opinions of additional reviewers being recorded for many others.)

Audience suitability is indicated by *"A"* for Adults, *"Y"* for young people (14-18), and *"C"* for children, at the end of each line.

Descriptive abbreviations are as follows:

*adv*—adventure
*biog*—biography
*com*—comedy
*cr*—crime and capture of criminals
*f*—foreign language
*hist*—founded on historical incident
*mel*—melodrama
*mus-com*—musical comedy
*mys*—mystery
*nov*—dramatization of a novel
*rom*—romance
*soc*—social-problem drama
*trav*—travelogue
*wes*—western

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | — | 2 | — | Accidents Will Happen | *com AY* |
| — | 9 | 8 | 7 | Accused | *mys A* |
| — | 7 | 8 | 7 | Accusing Finger | *soc A* |
| — | — | 2 | 6 | Aces Wild | *wes A* |
| — | 1 | 1 | 1 | Action for Slander | *rom A* |
| — | 7 | 11 | 2 | Adventure in Manhattan | *com AY* |
| — | — | 2 | 1 | Adventurous Blonde | *mys A* |
| — | — | 1 | 7 | Affairs of Cappy Ricks | *mel AY* |
| — | 4 | 3 | 2 | African Holiday | *trav AYC* |
| 3 | 20 | 6 | 1 | After the Thin Man | *mys A* |
| 21 | 9 | — | — | Ah, Wilderness | *rom AY* |
| — | 3 | 2 | — | Ali Baba Goes to Town | *mus-com A* |
| — | 2 | 6 | 1 | Alibi for Murder | *mys AY* |
| — | — | 2 | 2 | All Over Town | *com AY* |
| — | 8 | 8 | 1 | Along Came Love | *com AYC* |
| 3 | 20 | 7 | — | Amphitryon | *soc f A* |
| — | 2 | 2 | 1 | Angel | *rom A* |
| — | 3 | 11 | 5 | Angel's Holiday | *cr A* |
| — | 1 | 1 | — | Annapolis Salute | *rom AY* |
| — | 9 | 6 | 10 | Another Dawn | *rom A* |
| 12 | 15 | 2 | 1 | Anthony Adverse | *nov AY* |
| — | — | — | 4 | Any Man's Wife | *rom A* |
| — | — | 3 | 1 | Anything for a Thrill | *rom AYC* |
| — | 9 | 10 | — | April Romance | *mus-rom AY* |
| — | 2 | 8 | 6 | Arizona Mahony | *wes AY* |
| — | 2 | 8 | 4 | Armored Car | *cr AY* |
| 1 | 14 | 2 | 2 | Artists and Models | *mus-com A* |
| — | 5 | 8 | 10 | As Good As Married | *rom A* |
| 4 | 14 | 8 | 3 | As You Like It | *com AY* |
| — | 11 | 4 | — | Back in Circulation | *cr A* |
| — | — | 4 | — | Backstage | *mus-rom AY* |
| — | 1 | — | — | Bad Guy | *mel A* |
| — | 1 | — | — | Baltic Deputy | *biog f AY* |
| — | 12 | 17 | 1 | Banjo on My Knee | *mel A* |
| — | — | 3 | 2 | Bank Alarm | *cr AYC* |
| 4 | 7 | 2 | — | Beethoven Concerto | *mus-rom f AYC* |
| — | 7 | 7 | 2 | Behind the Headlines | *com A* |
| 10 | 12 | 7 | 1 | Beloved Enemy | *hist AY* |
| — | 7 | 12 | 5 | Between Two Women | *mel AY* |
| — | 13 | 6 | — | Big Business | *com AYC* |
| 1 | 2 | — | — | Big City | *mel A* |
| — | 12 | 7 | 4 | Big Game | *com AYC* |
| — | — | 5 | 3 | Big Shot | *cr AY* |
| — | — | 1 | 5 | Bill Cracks Down | *soc A* |
| 4 | 21 | 2 | 1 | Black Legion | *soc A* |
| — | 8 | 3 | — | Blazing Sixes | *wes AYC* |
| — | 5 | 7 | 5 | Blonde Trouble | *com A* |
| — | — | 1 | 4 | Bold Caballero | *wes AY* |
| — | — | 3 | — | Boothill Brigade | *wes AYC* |
| — | — | 1 | 1 | Boots of Destiny | *wes AY* |
| — | 13 | 5 | 1 | Border Cafe | *wes AYC* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 9 | 6 | — | Borderland | *wes AYC* |
| 8 | 20 | 2 | — | Born to Dance | *mus-com AY* |
| — | 2 | 4 | 9 | Born Reckless | *cr A* |
| — | 2 | — | — | Borneo | *trav AYC* |
| — | — | 5 | — | Boss Rider of Gun Creek | *wes AYC* |
| — | 10 | 11 | 8 | Breezing Home | *rom AYC* |
| — | 2 | — | — | Bride Wore Red | *com A* |
| — | — | 1 | 3 | Brilliant Marriage | *rom A* |
| — | 3 | 1 | 1 | Broadway Melody of 1938 | *mus-com AY* |
| — | 7 | 2 | 5 | Broken Blossoms | *soc A* |
| — | 1 | 1 | 3 | Bulldog Drummond at Bay | *mys AY* |
| — | — | 2 | — | Bulldog Drummond Comes Back | *mys A* |
| — | 11 | 6 | 1 | Bulldog Drummond Escapes | *mys AY* |
| — | — | 2 | 8 | Bulldog Edition | *mel A* |
| — | 12 | 3 | — | Cafe Metropole | *rom A* |
| — | 1 | 7 | 2 | California Mail | *wes AY* |
| — | 1 | 2 | 6 | Californian | *wes AY* |
| — | 6 | 7 | 6 | California Straight Ahead | *com AYC* |
| 2 | 26 | 1 | 1 | Call It a Day | *com AYC* |
| — | 1 | 1 | — | Call to Arms | *mel f A* |
| 16 | 13 | 1 | — | Camille | *rom AY* |
| — | 2 | 6 | 14 | Can This Be Dixie? | *com A* |
| 18 | 12 | — | — | Captain Blood | *adv AY* |
| 26 | 4 | — | — | Captains Courageous | *nov AYC* |
| — | 5 | 6 | 3 | Captain's Kid | *youth AYC* |
| — | 6 | 8 | 5 | Career Woman | *soc A* |
| 10 | 9 | 2 | 1 | Carnival in Flanders | *com f A* |
| — | 6 | 7 | 8 | Case of the Black Cat | *mys AY* |
| — | 6 | 5 | — | Case of the Stuttering Bishop | *mys AY* |
| 2 | 15 | 8 | 5 | Champagne Waltz | *mus-com AY* |
| 14 | 7 | 3 | 1 | Charge of the Light Brigade | *adv AY* |
| — | 18 | 2 | — | Charlie Chan at the Olympics | *mys AY* |
| — | 21 | — | — | Charlie Chan at the Opera | *mys AY* |
| — | 4 | 1 | — | Charlie Chan on Broadway | *mys AY* |
| — | 2 | 4 | 4 | Cherokee Strip | *wes AYC* |
| — | 2 | 2 | 10 | China Passage | *mys A* |
| — | 1 | 2 | 4 | Circus Girl | *rom A* |
| — | 8 | 7 | 5 | Clarence | *rom AY* |
| — | — | 2 | 4 | Code of the Range | *wes AY* |
| 1 | 15 | 8 | 4 | College Holiday | *mus-com AY* |
| 13 | 12 | 3 | 2 | Come and Get It | *nov A* |
| — | 5 | 4 | 3 | Come Closer, Folks | *com A* |
| — | 2 | 2 | — | Come on, Cowboys | *wes AY* |
| — | 6 | 3 | 6 | Confession | *mel A* |
| — | 7 | 10 | 3 | Conflict | *mel A* |
| 1 | 1 | 1 | — | Conquest | *hist A* |
| — | 6 | 8 | 1 | Cornered | *mel A* |
| — | — | — | 2 | Counsel for Crime | *cr A* |
| — | 1 | 3 | 5 | Counterfeit Lady | *mys A* |
| 9 | 21 | — | — | Country Doctor | *rom AYC* |
| — | 3 | 3 | — | Cowboy Star | *wes AYC* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 7 | 5 | 3 | Crack-up | *cr A* |
| 15 | 11 | 3 | 1 | Craig's Wife | *soc AY* |
| — | 2 | 4 | 7 | Crime Nobody Saw | *mys AY* |
| — | 4 | 6 | 8 | Criminal Lawyer | *cr A* |
| — | — | 3 | 4 | Criminals of the Air | *cr AY* |
| — | 1 | 2 | 2 | Crimson Circle | *mys A* |
| — | — | — | 4 | Crusade against Rackets | *cr A* |
| — | 5 | 2 | 1 | Damaged Goods | *soc A* |
| — | 6 | 8 | 4 | Dance, Charlie, Dance | *com A* |
| 7 | 12 | 4 | 2 | Dancing Pirate | *mus-com AY* |
| — | 1 | 1 | — | Danger, Love at Work | *com A* |
| — | — | 2 | — | Dangerous Adventure | *mel AY* |
| — | — | — | 6 | Dangerous Holiday | *cr AY* |
| — | 9 | 13 | 8 | Dangerous Number | *com AY* |
| — | 17 | 6 | 3 | Daniel Boone | *wes AYC* |
| 17 | 13 | — | — | Dark Angel | *rom AY* |
| — | 2 | 1 | 1 | Dark Journey | *adv A* |
| 23 | 7 | — | — | David Copperfield | *nov AYC* |
| 4 | 19 | 5 | 2 | Day at the Races | *com AY* |
| 10 | 3 | — | — | Dead End | *soc AY* |
| 1 | 3 | 3 | — | Dead March | *soc AY* |
| — | — | — | 3 | Death in the Air | *adv A* |
| 2 | 23 | 3 | — | Devil Doll | *mys AY* |
| 9 | 19 | 1 | 1 | Devil Is a Sissy | *youth AYC* |
| — | 7 | 5 | — | Devil Is Driving | *soc A* |
| — | — | 1 | 6 | Devil on Horseback | *mel A* |
| — | 1 | 10 | 5 | Devil's Playground | *mel A* |
| 1 | 17 | 9 | 1 | Dimples | *com AY* |
| — | 11 | 12 | 3 | Doctor's Diary | *soc A* |
| 1 | 2 | 2 | — | Dr. Knock | *com f A* |
| — | 3 | 2 | 2 | Dodge City Trail | *wes AYC* |
| 18 | 12 | — | — | Dodsworth | *soc A* |
| — | 7 | 7 | 2 | Don't Pull Your Punches | *mel AYC* |
| — | 6 | 8 | 7 | Don't Tell the Wife | *cr A* |
| — | 3 | 6 | 4 | Don't Turn 'Em Loose | *soc A* |
| — | — | 2 | 3 | Double or Nothing | *mus-com A* |
| — | — | 2 | 3 | Dreaming Lips | *rom A* |
| — | 5 | 8 | 17 | East Meets West | *mel A* |
| 1 | 18 | 9 | 1 | Easy Living | *com AY* |
| — | 3 | 2 | 9 | Easy to Take | *com AY* |
| — | 1 | 1 | 3 | Ecstacy | *rom f A* |
| 11 | 14 | 4 | 1 | Elephant Boy | *trav AYC* |
| — | — | 3 | — | Ellis Island | *cr AY* |
| 1 | 15 | 12 | 2 | Emperor's Candlesticks | *mys AY* |
| — | 1 | 1 | — | Empty Holsters | *wes AY* |
| — | 1 | 5 | 2 | Empty Saddles | *wes AYC* |
| — | 3 | 4 | 3 | End of the Trail | *wes A* |
| — | — | 2 | — | Escape by Night | *mel A* |
| 12 | 17 | 1 | — | Eskimo | *trav AY* |
| — | 3 | 5 | 11 | Espionage | *adv A* |

| AA | A | B | C | |
|---|---|---|---|---|
| 4 | 13 | 2 | 1 | Eternal Mask ..... *soc f A* |
| — | 3 | 9 | 18 | Ever Since Eve ..... *com A* |
| — | 1 | 3 | 1 | Everybody Dance ..... *mus-com A* |
| — | 3 | 5 | 7 | Everything Is Thunder ..... *mel A* |
| — | 11 | 5 | 5 | Exclusive ..... *cr AY* |
| — | — | — | 3 | Expensive Husbands ..... *rom A* |
| 1 | 6 | 4 | 1 | Fair Warning ..... *mys AY* |
| 5 | 16 | 4 | — | Family Affair ..... *soc AYC* |
| — | 7 | 9 | 4 | 15 Maiden Lane ..... *rom A* |
| — | 11 | 10 | 9 | Fifty Roads to Town ..... *com A* |
| — | — | 2 | — | 52nd Street ..... *mus-com AY* |
| — | — | 1 | 6 | Fight to the Finish ..... *mel A* |
| — | 3 | 2 | 2 | Find the Witness ..... *mys AY* |
| 3 | 17 | 7 | — | Fire over England ..... *hist AYC* |
| 7 | 6 | 3 | — | Firefly ..... *mus-rom AY* |
| — | 3 | 1 | — | First Lady ..... *rom A* |
| — | 1 | 2 | — | Fit for a King ..... *com AYC* |
| — | 5 | 2 | — | Flight from Glory ..... *adv AY* |
| — | 2 | 5 | 2 | Fly Away Baby ..... *com A* |
| — | 14 | 10 | — | Flying Hostess ..... *adv AY* |
| — | — | 1 | 2 | Flying Doctor ..... *adv AY* |
| 1 | 3 | 7 | — | Follow Your Heart ..... *mus-rom AY* |
| — | — | 1 | 2 | Fool's Comedy ..... *com f A* |
| — | — | — | 2 | Footloose Heiress ..... *rom A* |
| 1 | 11 | 3 | 1 | Forever Yours ..... *mel AY* |
| — | 7 | 3 | 1 | Forlorn River ..... *wes AYC* |
| — | — | 3 | — | Forty Naughty Girls ..... *mel A* |
| — | 4 | 5 | 7 | Four Days' Wonder ..... *com AY* |
| — | 1 | 6 | 2 | Frame-up ..... *mel AY* |
| — | 5 | 6 | 8 | Fugitive in the Sky ..... *adv AY* |
| 13 | 17 | — | — | Fury ..... *soc AY* |
| — | — | 3 | 4 | Fury and the Woman ..... *mel A* |
| — | 1 | 4 | — | Fury over Spain ..... *soc AY* |
| — | — | — | 2 | Game That Kills ..... *mel A* |
| — | 2 | 4 | 3 | Gangway ..... *mus-mel A* |
| 8 | 15 | 6 | 1 | Garden of Allah ..... *rom A* |
| 10 | 19 | 1 | — | Gay Desperado ..... *mus-com AY* |
| 5 | 16 | 2 | 1 | General Died at Dawn ..... *adv AY* |
| — | 3 | 3 | — | General Spanky ..... *youth AYC* |
| 14 | 13 | — | — | Ghost Goes West ..... *mys AYC* |
| — | — | 2 | 3 | Ghost Patrol ..... *wes A* |
| — | 2 | 2 | 1 | Ghost Town Gold ..... *wes AY* |
| — | — | 1 | 8 | Girl from Maxim's ..... *rom A* |
| — | 2 | 4 | 6 | Girl from Scotland Yard ..... *cr A* |
| — | 4 | 7 | 4 | Girl Loves Boy ..... *rom AY* |
| — | 4 | 8 | 5 | Girl on the Front Page ..... *cr AY* |
| — | 4 | 8 | 9 | Girl Overboard ..... *mys AY* |
| 1 | 8 | 4 | 2 | Girl Said No ..... *mus-rom AY* |
| — | — | 2 | — | Girls Can Play ..... *mys A* |
| 2 | 21 | 6 | 1 | Girls' Dormitory ..... *rom A* |
| — | 5 | 2 | — | Git Along Little Dogies ..... *wes AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 1 | 5 | 5 | 2 | Give Me Your Heart | *soc A* |
| — | 9 | 6 | — | Go Getter | *com AY* |
| — | 13 | 4 | 11 | Go West, Young Man | *com A* |
| — | — | 1 | 2 | Gobsek | *nov f A* |
| 6 | 13 | 6 | 2 | God's Country and the Woman | *rom AY* |
| — | — | 3 | 7 | Gold Racket | *cr A* |
| — | 11 | 7 | — | Golem | *mel f A* |
| 1 | 6 | — | — | Golgotha | *biog AYC* |
| 25 | 4 | 1 | — | Good Earth | *nov A* |
| 1 | 11 | 14 | 4 | Good Old Soak | *com A* |
| — | 10 | 11 | 3 | Gorgeous Hussy | *hist A* |
| — | 1 | 2 | 2 | Grandeur et Decadence | *mel f A* |
| — | 9 | 8 | 7 | Great Gambini | *mel A* |
| — | 22 | 1 | 3 | Great Guy | *cr AY* |
| — | 1 | 4 | 12 | Great Hospital Mystery | *mys A* |
| — | 16 | 5 | 1 | Great O'Malley | *com AY* |
| 14 | 16 | — | — | Great Ziegfeld | *mus-com A* |
| — | 1 | 4 | 1 | Greater Promise | *soc f A* |
| 3 | 14 | 9 | 4 | Green Light | *soc AY* |
| 22 | 8 | — | — | Green Pastures | *religion AYC* |
| — | — | 2 | — | Gun Lords of Stirrup Basin | *wes AY* |
| — | 1 | 1 | 4 | Gun Ranger | *wes AY* |
| — | — | 3 | 2 | Happy Go Lucky | *com AY* |
| — | — | 2 | 6 | Hats Off | *rom A* |
| — | 7 | 9 | 11 | Head over Heels in Love | *mus-com A* |
| — | — | 2 | 3 | Headin' for the Rio Grande | *wes AY* |
| 1 | 3 | 2 | — | Heart's Desire | *mus-rom AYC* |
| 1 | 2 | — | — | Heidi | *rom AYC* |
| — | 10 | 6 | 1 | Her Husband Lies | *mel A* |
| — | 4 | 9 | 17 | Her Husband's Secretary | *com A* |
| — | 4 | 8 | 9 | Here Comes Carter | *com AY* |
| — | 2 | 3 | 2 | Heroes of the Alamo | *hist AY* |
| — | — | 4 | 5 | Hideaway | *cr A* |
| — | 2 | 6 | 14 | Hideaway Girl | *com A* |
| — | — | — | 5 | High Treason | *adv A* |
| 2 | 8 | 5 | 1 | High, Wide and Handsome | *mus-mel AYC* |
| — | 9 | 7 | 1 | Hills of Old Wyoming | *wes AYC* |
| 4 | 17 | 7 | 2 | History Is Made at Night | *rom AY* |
| — | 5 | 9 | 4 | Hit Parade | *mus-com A* |
| — | — | 3 | — | Hit the Saddle | *wes AY* |
| — | 1 | 3 | 8 | Hollywood Boulevard | *com A* |
| — | 11 | 2 | — | Hollywood Cowboy | *wes AYC* |
| — | 6 | 9 | 4 | Holy Terror | *com AY* |
| — | 11 | 3 | — | Hoosier Schoolboy | *nov AYC* |
| — | 1 | 7 | 10 | Hopalong Cassidy Returns | *wes A* |
| — | 3 | — | — | Hopalong Rides Again | *wes AYC* |
| — | 8 | 3 | — | Hot Water | *com AYC* |
| — | 5 | 10 | 3 | Hotel Haywire | *com A* |
| — | — | 4 | 5 | House of Secrets | *mys A* |
| 4 | 3 | — | — | Human Adventure | *hist AY* |
| — | 1 | 6 | 2 | I Cover the War | *mel AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 13 | 17 | — | — | I Live My Life | *com AY* |
| 16 | 11 | 3 | — | I Met Him in Paris | *com A* |
| — | 8 | 6 | — | I Promise to Pay | *cr A* |
| — | 1 | 1 | 1 | I Want to Be a Mother | *soc f A* |
| 3 | 10 | 15 | 2 | In His Steps | *rom AYC* |
| 24 | 6 | — | — | Informer | *hist AY* |
| 1 | 15 | 10 | — | Internes Can't Take Money | *cr A* |
| — | 4 | 14 | 3 | Isle of Fury | *adv A* |
| — | — | 2 | 4 | It Can't Last Forever | *com A* |
| — | — | 1 | 6 | It Could Happen to You | *mel A* |
| — | 1 | 1 | 1 | It Happened in Hollywood | *cr A* |
| — | 5 | 1 | — | It Happened out West | *wes AYC* |
| — | 2 | 2 | — | It Isn't Done | *soc AY* |
| — | 9 | 2 | — | It's All Yours | *com AYC* |
| 10 | 4 | — | — | It's Love I'm After | *com AY* |
| — | 2 | 7 | — | It's You I Want | *com A* |
| — | 8 | 1 | — | Janosik | *adv f A* |
| — | 2 | 1 | — | Jericho | *mel A* |
| — | 3 | 4 | 4 | Jim Hanvey, Detective | *mys A* |
| — | 3 | 12 | 5 | John Meade's Woman | *soc A* |
| — | 7 | 5 | 2 | Join the Marines | *com AY* |
| — | — | 1 | 2 | Juggernaut | *mel A* |
| — | 8 | 6 | 5 | Jungle Princess | *rom AY* |
| — | 4 | 4 | 2 | Kelly the Second | *com AY* |
| 5 | 16 | 6 | — | Kid Galahad | *cr A* |
| — | — | — | 7 | Killer at Large | *cr A* |
| 1 | 5 | 3 | 2 | Kimiko | *soc f A* |
| 1 | 11 | 7 | 1 | King and the Chorus Girl | *com A* |
| 1 | 8 | 13 | 8 | King of Gamblers | *cr A* |
| — | — | 8 | 9 | King of Hockey | *rom A* |
| — | 5 | 8 | 1 | King of the Royal Mounted | *wes AY* |
| 1 | 14 | 5 | 2 | King Solomon's Mines | *adv AYC* |
| - | 1 | 3 | 1 | Kliou, the Killer | *trav AY* |
| 3 | 13 | 8 | — | Knight without Armor | *adv. A* |
| 1 | 14 | 10 | 5 | Ladies in Love | *rom A* |
| — | 3 | 4 | 5 | Lady from Nowhere | *com A* |
| — | 3 | 6 | 9 | Lady Escapes | *rom A* |
| — | — | — | 6 | Lady Luck | *mys A* |
| — | 1 | 1 | — | Lancer Spy | *adv AY* |
| | 4 | 5 | 1 | Land beyond the Law | *wes AY* |
| — | 4 | 6 | 2 | Larceny on the Air | *cr AY* |
| — | — | — | 8 | Lash of the Penitentes | *soc A* |
| 1 | 16 | 5 | 3 | Last of the Mohicans | *nov. AYC* |
| - | 14 | 11 | 5 | Last of Mrs. Cheyney | *mys A* |
| 2 | 4 | 2 | 1 | Last Night | *hist f A* |
| — | 8 | 12 | 10 | Last Train from Madrid | *mel A* |
| | 3 | 3 | 3 | Laughing at Trouble | *com A* |
| - | — | 3 | 2 | Law of the Ranger | *wes AYC* |
| | — | — | 3 | Lawless Land | *wes A* |
| | 2 | 3 | — | Lawman Is Born | *wes AYC* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 1 | 8 | 2 | — | League of Frightened Men | *mys AY* |
| — | — | 1 | 4 | Left-handed Law | *wes AY* |
| — | 5 | 6 | 3 | Legion of Terror | *soc A* |
| — | 1 | 2 | 9 | Let's Get Married | *com AY* |
| — | 4 | 11 | 7 | Let's Make a Million | *com AY* |
| — | 10 | 11 | — | Let Them Live | *mel A* |
| 17 | 10 | 2 | 1 | Libeled Lady | *com AY* |
| — | 1 | 1 | — | Life Begins in College | *mus-com A* |
| 16 | 4 | — | — | Life of Emile Zola | *biog AYC* |
| — | — | 1 | — | Life of the Party | *mus-com A* |
| 17 | 13 | — | — | Lives of a Bengal Lancer | *adv AY* |
| 19 | 10 | 1 | — | Lloyds of London | *hist AY* |
| — | 7 | 9 | 3 | London by Night | *mys AY* |
| — | 5 | 13 | 12 | Longest Night | *mys A* |
| 23 | 5 | 1 | 1 | Lost Horizon | *nov AYC* |
| 24 | 6 | — | — | Lost Patrol | *adv AY* |
| — | 2 | 1 | 2 | Love and Money | *rom f A* |
| — | — | 5 | 2 | Love Begins at Twenty | *com AY* |
| 2 | 15 | 7 | — | Love from a Stranger | *mys A* |
| — | 3 | 9 | 4 | Love in a Bungalow | *com AYC* |
| — | — | 3 | 4 | Love in Exile | *com A* |
| — | 26 | 4 | — | Love Is News | *com AY* |
| — | 6 | 8 | 5 | Love Letters of a Star | *com A* |
| 1 | 18 | 4 | 4 | Love on the Run | *com AY* |
| — | — | 2 | 4 | Love Takes Flight | *rom AY* |
| — | 3 | 5 | 4 | Love under Fire | *rom AY* |
| — | 14 | 8 | 4 | Luckiest Girl in the World | *com AYC* |
| — | 5 | 9 | 8 | Mad Holiday | *mys AY* |
| — | — | 1 | — | Madam X | *mel A* |
| — | 10 | 13 | 7 | Magnificent Brute | *mel A* |
| 8 | 15 | 5 | 2 | Maid of Salem | *hist AY* |
| — | — | 1 | — | Make a Wish | *rom AYC* |
| — | 11 | 9 | 7 | Make Way for a Lady | *rom AY* |
| 11 | 13 | 2 | — | Make Way for Tomorrow | *soc AY* |
| — | 7 | 3 | 5 | Mama Steps Out | *com AY* |
| — | 1 | 6 | 3 | Man Betrayed | *com AY* |
| — | 4 | 5 | 1 | Man in Blue | *cr A* |
| — | 2 | 2 | — | Man in the Mirror | *com AY* |
| 7 | 8 | 7 | 5 | Man of Affairs | *mel AYC* |
| — | 8 | 11 | 4 | Man of the People | *cr A* |
| 2 | 14 | 9 | 5 | Man Who Could Work Miracles | *com AY* |
| — | 1 | 2 | — | Man Who Cried Wolf | *mys A* |
| — | 6 | 4 | 7 | Man Who Found Himself | *soc A* |
| — | 7 | 6 | 3 | Man Who Lived Again | *mel AY* |
| — | 6 | 3 | 2 | Man Who Lived Twice | *mys A* |
| — | — | 1 | 3 | Mandarin Mystery | *mys A* |
| — | 23 | 2 | 5 | Marked Woman | *cr A* |
| — | 9 | 7 | 6 | Married before Breakfast | *com AY* |
| — | — | 2 | 16 | Marry the Girl | *com A* |
| — | 8 | 3 | 1 | Masquerade in Vienna | *mus-rom f A* |
| — | — | 2 | 3 | Maternite | *soc f A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 1 | — | — | Mayerling | *rom f A* |
| 15 | 12 | 1 | — | Maytime | *mus-rom AYC* |
| — | — | 3 | 2 | Meet the Boy Friend | *rom A* |
| — | 5 | 3 | — | Meet the Missus | *com AY* |
| — | 2 | 11 | 4 | Melody for Two | *mus-rom A* |
| — | 4 | 4 | 5 | Melody on the Plains | *wes AY* |
| — | 5 | 11 | 11 | Men Are Not Gods | *mel A* |
| — | 4 | 4 | 5 | Men in Exile | *cr A* |
| — | — | — | 5 | Men of the Plains | *wes AY* |
| — | 2 | 2 | — | Merry-Go-Round of '38 | *mus-com A* |
| 28 | 2 | — | — | Metropolitan | *mus-rom AYC* |
| — | 15 | 5 | — | Midnight Court | *cr A* |
| — | 4 | 7 | 8 | Midnight Madonna | *cr A* |
| — | 2 | 10 | 8 | Midnight Taxi | *cr A* |
| 12 | 12 | 4 | 2 | Midsummer Night's Dream | *com AY* |
| — | 1 | 2 | 3 | Mile a Minute Love | *com A* |
| — | 2 | 1 | 1 | Mill on the Floss | *nov AY* |
| — | 16 | 4 | 4 | Mind Your Own Business | *com AYC* |
| — | 5 | 4 | 4 | Missing Girls | *cr AY* |
| 28 | 2 | — | — | Mr. Deeds Goes to Town | *com AYC* |
| — | 4 | 7 | 5 | Mr. Dodd Takes the Air | *com AYC* |
| 19 | 11 | — | — | Modern Times | *com AYC* |
| — | 1 | 2 | — | Moonlight on the Range | *wes AY* |
| — | 3 | 3 | 2 | More Than a Secretary | *com AY* |
| — | — | 3 | 4 | Motor Madness | *cr A* |
| 1 | 14 | 7 | 3 | Mountain Justice | *soc A* |
| 1 | 4 | 9 | 10 | Mountain Music | *com AY* |
| — | 6 | 8 | 4 | Murder Goes to College | *mys A* |
| — | — | 2 | — | Music for Madam | *mus-rom AY* |
| 30 | — | — | — | Mutiny on the Bounty | *adv AY* |
| — | — | 1 | 1 | My Dear Miss Aldrich | *com AY* |
| 10 | 17 | 2 | 1 | My Man Godfrey | *com AY* |
| — | 1 | 9 | 2 | Mysterious Crossing | *mys AY* |
| — | — | 1 | 3 | Mysteres de Paris | *mel f A* |
| — | 1 | 1 | 2 | Mystery of the Hooded Horseman | *wes AY* |
| — | 9 | 8 | 3 | Nancy Steele Is Missing | *cr A* |
| 24 | 6 | — | — | Naughty Marietta | *mus-rom AYC* |
| — | 1 | 3 | 5 | Navy Blues | *cr A* |
| — | — | — | 8 | Navy Spy | *adv A* |
| — | — | — | 6 | Nazar Stodolya | *rom f A* |
| — | 5 | 8 | 13 | New Faces of 1937 | *com AY* |
| 3 | 18 | 2 | — | New Gulliver | *soc AYC* |
| — | 13 | 6 | 1 | Night Key | *mys AY* |
| 6 | 16 | — | 1 | Night Must Fall | *cr A* |
| — | 2 | 6 | 9 | Night of Mystery | *cr A* |
| — | 1 | 9 | 11 | Night Waitress | *mys A* |
| 15 | 10 | 4 | — | Nine Days a Queen | *hist AY* |
| 1 | 12 | 7 | 1 | Nobody's Baby | *com AY* |
| — | 4 | 6 | 2 | North of the Rio Grande | *wes AYC* |
| — | 6 | 15 | 3 | Oh, Doctor | *com AYC* |
| — | — | 3 | 4 | Oh, Susanna | *wes AYC* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 11 | 4 | 4 | Off to the Races | *com AYC* |
| 2 | 15 | 5 | 4 | Old Hutch | *com AYC* |
| — | 4 | 3 | 1 | Old Louisiana | *hist-wes AYC* |
| — | 3 | 4 | 2 | On Again—Off Again | *com AY* |
| — | — | 1 | 2 | On Such a Night | *mel A* |
| 2 | 16 | 10 | 2 | On the Avenue | *mus-com AY* |
| — | 4 | 8 | 4 | Once a Doctor | *soc A* |
| — | — | 1 | 3 | Once in a Blue Moon | *com A* |
| — | 7 | — | — | One Hundred Days of Napoleon | *hist f AY* |
| 3 | 1 | — | — | 100 Men and a Girl | *mus-rom AY* |
| 7 | 20 | 3 | — | One in a Million | *rom-com AYC* |
| — | 3 | 6 | 5 | One Mile from Heaven | *soc A* |
| 4 | 21 | 1 | — | One Rainy Afternoon | *com A* |
| — | 5 | 3 | 1 | Our Relations | *com AYC* |
| 2 | 8 | 7 | 3 | Ourselves Alone | *hist A* |
| — | 12 | 7 | 1 | Outcast | *soc A* |
| — | 6 | 8 | 5 | Outcasts of Poker Flat | *wes-soc A* |
| — | — | 2 | — | Outlaws of the Orient | *adv AY* |
| — | 1 | 1 | — | Over She Goes | *mus-com A* |
| | | | | | |
| — | 4 | 9 | 1 | Paradise Express | *soc AY* |
| — | 3 | 4 | 2 | Paradise Isle | *rom A* |
| — | 8 | 5 | — | Park Avenue Logger | *adv AYC* |
| 1 | 8 | 10 | 5 | Parnell | *hist A* |
| — | — | 1 | 5 | Paris Commune | *hist A* |
| — | 3 | 4 | 4 | Parole Racket | *cr A* |
| — | 15 | 7 | 1 | Pennies from Heaven | *mus-com AYC* |
| — | 18 | 6 | 2 | Penrod and Sam | *youth AY* |
| — | 7 | 10 | 13 | Personal Property | *com A* |
| 21 | 9 | — | — | Petrified Forest | *cr AY* |
| 1 | 13 | 8 | 6 | Piccadilly Jim | *com AY* |
| — | 5 | 9 | 12 | Pick a Star | *com AY* |
| 5 | 22 | 2 | 1 | Pigskin Parade | *com AYC* |
| 6 | 23 | 1 | — | Plainsman | *wes-hist AYC* |
| — | 9 | 11 | 8 | Plot Thickens | *mys AY* |
| 10 | 13 | 5 | 2 | Plough and the Stars | *hist AY* |
| 4 | 14 | 4 | 3 | Polo Joe | *com AYC* |
| — | 15 | 8 | 3 | President's Mystery | *soc AY* |
| 11 | 19 | — | — | Prince and the Pauper | *nov AYC* |
| — | — | 1 | 7 | Prince Jean | *rom f A* |
| 21 | 9 | — | — | Prisoner of Shark Island | *biog AY* |
| 4 | 2 | — | — | Prisoner of Zenda | *mel AY* |
| 1 | 1 | 2 | 3 | Prisoners | *soc f A* |
| — | 2 | 4 | 10 | Public Wedding | *rom A* |
| | | | | | |
| 8 | 21 | 1 | — | Quality Street | *rom AYC* |
| | | | | | |
| — | 4 | 5 | 5 | Racing Lady | *com AY* |
| — | 4 | 5 | 3 | Racketeers in Exile | *com A* |
| 6 | 15 | 7 | 1 | Ramona | *nov AYC* |
| — | 3 | 4 | — | Range Defenders | *wes AYC* |
| 1 | 6 | — | — | Razumov | *soc f A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 9 | 12 | 5 | Ready, Willing and Able | *com A* |
| — | 2 | 1 | 1 | Red Rope | *wes AY* |
| 6 | 5 | 5 | 3 | Rembrandt | *biog AY* |
| — | — | 2 | 4 | Reported Missing | *cr AY* |
| — | 12 | 7 | 4 | Reunion | *com AY* |
| — | 4 | 3 | 1 | Revolutionists | *hist f A* |
| — | — | 4 | 2 | Rhythm in the Clouds | *rom AY* |
| — | 2 | 4 | — | Ride, Ranger, Ride | *wes AY* |
| — | 1 | 1 | 1 | Riders of the Dawn | *wes AYC* |
| — | 12 | 6 | 2 | Riding on Air | *com AYC* |
| 5 | 13 | 6 | 6 | Road Back | *mel AY* |
| — | 1 | 1 | — | Roarin' Lead | *wes AYC* |
| — | 3 | 5 | 1 | Roaring Timber | *mel AYC* |
| — | 5 | 8 | 4 | Robber Symphony | *mel A* |
| — | 2 | 5 | 6 | Romance and Riches | *com AYC* |
| — | 1 | 2 | 2 | Romance Rides the Range | *wes AY* |
| 24 | 5 | 1 | — | Romeo and Juliet | *rom AY* |
| 15 | 14 | — | — | Rosemarie | *mus-rom AY* |
| — | 1 | 2 | 1 | Roundup Time in Texas | *wes AYC* |
| — | 8 | 3 | 1 | Rustler's Valley | *wes AYC* |
| 23 | 7 | — | — | San Francisco | *hist AY* |
| — | 7 | 12 | 3 | San Quentin | *soc AY* |
| — | 1 | 4 | 2 | Sandplow | *wes AYC* |
| — | 8 | 9 | 8 | Saratoga | *com A* |
| 24 | 6 | — | — | Scarlet Pimpernel | *adv AY* |
| — | — | 1 | 3 | Scotland Yard Commands | *cr A* |
| — | 12 | 12 | 6 | Sea Devils | *adv AY* |
| — | — | 4 | — | Sea Racketeers | *cr A* |
| — | 10 | 9 | — | Sea Spoilers | *adv AY* |
| — | 1 | 2 | — | Second Wife | *mel A* |
| — | 10 | 9 | 2 | Secret Valley | *mys AY* |
| 5 | 15 | 3 | 4 | Seventh Heaven | *rom AY* |
| — | — | — | 6 | Shadow Strikes | *mys A* |
| 5 | 19 | 4 | 2 | Shall We Dance? | *mus-com AY* |
| — | — | 2 | 1 | She Asked for It | *com A* |
| — | — | 5 | 12 | She Had to Eat | *com A* |
| — | — | — | 10 | She's No Lady | *cr A* |
| — | — | 5 | 2 | Sheik Steps Out | *adv AY* |
| 24 | 5 | 1 | — | Showboat | *nov AYC* |
| — | — | 3 | — | Signora Paradiso | *rom f A* |
| 2 | 9 | 6 | 6 | Silent Barriers | *hist AYC* |
| — | 6 | 3 | 11 | Sing and Be Happy | *com A* |
| 1 | 3 | 2 | 1 | Sing, Baby, Sing | *com A* |
| — | 1 | 1 | 1 | Sing, Cowboy, Sing | *wes AY* |
| 2 | 15 | 6 | 2 | Sing Me a Love Song | *mus-com AY* |
| — | 2 | 2 | 5 | Sing While You're Able | *rom A* |
| — | 13 | 12 | — | Singing Marine | *mus-com AYC* |
| — | 9 | 9 | 2 | Sinner Take All | *mys AY* |
| — | 1 | 3 | 3 | Sitting on the Moon | *muc-com A* |
| 1 | 13 | 4 | 2 | Slave Ship | *hist A* |
| 4 | 14 | 4 | — | Slim | *rom AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | — | 3 | — | Small Town Boy | *com A* |
| — | 11 | 8 | 4 | Smart Blonde | *mys AY* |
| — | 12 | 2 | 6 | Smartest Girl in Town | *com AY* |
| — | 3 | 2 | — | Smoke Tree Range | *wes AYC* |
| — | 2 | — | — | Soder Om Landsvagen | *rom f AYC* |
| 4 | 14 | 7 | 5 | Soldier and the Lady | *adv AY* |
| — | 2 | 1 | — | Something to Sing About | *mus-com AY* |
| 1 | 4 | 1 | — | Son of Mongolia | *"wes" f AY* |
| — | 6 | 9 | 5 | Song of the City | *rom A* |
| — | 1 | — | — | Song of Ceylon | *trav AY* |
| — | 2 | 2 | 1 | Song of the Gringo | *wes AY* |
| — | — | 1 | 2 | Sophie Lang Goes West | *mel A* |
| 1 | 7 | 4 | 1 | Souls at Sea | *mel A* |
| — | 6 | 2 | 1 | Spain in Flames | *hist f A* |
| 5 | 1 | 1 | — | Spanish Earth | *hist A* |
| — | 1 | 1 | 1 | Speed to Spare | *mel AY* |
| — | 1 | 3 | 6 | Stage Struck | *mus-com AY* |
| 8 | 18 | 3 | 1 | A Star Is Born | *rom A* |
| 12 | 8 | 2 | — | Stella Dallas | *soc A* |
| — | 9 | 7 | 5 | Step Lively, Jeeves | *com A* |
| 23 | 7 | — | — | Story of Louis Pasteur | *biog AYC* |
| 1 | 18 | 1 | — | Stowaway | *com AYC* |
| — | 2 | 2 | 2 | Straight from the Shoulder | *cr A* |
| — | 2 | 10 | 18 | Strangers on a Honeymoon | *com A* |
| — | — | 3 | 3 | Student Romance | *mus-rom AY* |
| 1 | 8 | 12 | 1 | Super Sleuth | *mys AY* |
| — | 1 | — | 4 | Sweetheart of the Navy | *com A* |
| — | 13 | 10 | 7 | Swing High, Swing Low | *com A* |
| 8 | 7 | 1 | 1 | Swing Time | *mus-com AY* |
| 25 | 5 | — | — | Tale of Two Cities | *hist AY* |
| — | 1 | 2 | — | Talent Scout | *com AY* |
| — | 1 | 2 | 2 | Tales from Vienna Woods | *mus-rom AY* |
| — | 14 | 5 | 3 | Tarzan Escapes | *adv AY* |
| — | — | 6 | — | Tenth Man | *mel AY* |
| 1 | 10 | 7 | 2 | Texas Rangers | *wes AY* |
| — | 3 | 4 | — | Thank You, Madam | *mus-rom f AY* |
| 1 | 6 | 1 | — | That Certain Woman | *rom A* |
| 2 | 16 | 9 | 3 | That Girl from Paris | *com A* |
| — | 4 | 6 | 5 | That I May Live | *cr A* |
| — | 3 | 10 | 6 | That Man's Here Again | *com A* |
| 9 | 15 | 2 | 1 | Theodora Goes Wild | *com AY* |
| — | 5 | 12 | 6 | There Goes My Girl | *com AY* |
| 11 | 17 | 2 | — | These Three | *rom A* |
| 3 | 12 | 6 | 6 | They Gave Him a Gun | *cr A* |
| — | 5 | 8 | 6 | They Met in a Taxi | *com AY* |
| — | 5 | 6 | 8 | They Wanted to Marry | *com AY* |
| 7 | 17 | 3 | — | They Won't Forget | *soc A* |
| 1 | — | — | — | Thin Ice | *rom AY* |
| 3 | 21 | 2 | — | Things to Come | *mel AY* |
| — | 11 | 2 | 1 | Think Fast, Mr. Moto | *mys AYC* |
| 2 | 6 | — | — | The Thirteen | *adv f AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 2 | 17 | 6 | — | Thirteenth Chair | *mys AY* |
| — | — | 2 | 4 | Thirteenth Man | *mys AY* |
| — | 3 | 1 | 1 | Thirty Seconds of Love | *rom f A* |
| 18 | 12 | — | — | Thirty-nine Steps | *mys AY* |
| 5 | 20 | 5 | — | This Is My Affair | *rom A* |
| — | 1 | 1 | 1 | This Way Please | *mus-com A* |
| — | 1 | 2 | 2 | This'll Make You Whistle | *mus-com A* |
| — | 1 | 4 | — | Three Legionnaires | *mel AY* |
| — | 3 | 7 | 2 | Three Married Men | *com A* |
| 4 | 16 | 6 | 4 | Three Men on a Horse | *com A* |
| 10 | 18 | 2 | — | Three Smart Girls | *rom-com AYC* |
| — | — | 1 | 2 | Three Years Without Women | *rom f A* |
| — | 7 | 8 | 11 | Thunder in the City | *mel A* |
| — | — | — | 3 | Timberesque | *rom AY* |
| — | 5 | 10 | 9 | Time out for Romance | *com AY* |
| 2 | 17 | 9 | 2 | Toast of New York | *hist AY* |
| 1 | 1 | — | — | Tom Sawyer | *com AYC* |
| — | 1 | 5 | 11 | Too Many Wives | *com A* |
| — | 6 | 7 | 12 | Top of the Town | *mus-com A* |
| 3 | 18 | 3 | 1 | Topper | *com AY* |
| — | — | 1 | 1 | Tough to Handle | *cr A* |
| — | 5 | 6 | 7 | Trail Dust | *wes AY* |
| 7 | 19 | 4 | — | Trail of the Lonesome Pine | *rom AY* |
| — | 2 | 1 | — | Trapped | *wes AY* |
| — | — | — | 7 | Trouble Ahead | *rom A* |
| — | 4 | 5 | 3 | Trouble in Morocco | *adv AY* |
| — | 1 | 2 | 1 | Trouble in Texas | *wes AYC* |
| — | 2 | 2 | — | Trusted Outlaw | *wes AY* |
| 1 | 1 | 1 | — | Truxa | *mel f A* |
| 4 | 6 | 2 | 1 | Tsar to Lenin | *hist f A* |
| — | 1 | 3 | — | Tugboat Princess | *rom A* |
| 4 | 6 | 1 | 1 | Tundra | *trav AYC* |
| — | 17 | 8 | 1 | Turn Off the Moon | *mus-com AY* |
| — | 12 | 5 | — | 23½ Hours' Leave | *com AY* |
| — | 1 | 6 | 12 | Two in a Crowd | *rom A* |
| 1 | 16 | — | — | Two in the Dark | *mys AY* |
| — | 1 | 3 | 11 | Two Who Dared | *rom A* |
| — | 11 | 2 | — | Two Wise Maids | *youth AYC* |
| — | 1 | 2 | 1 | Under Cover Man | *wes AYC* |
| — | 11 | 10 | 2 | Under Cover of Night | *mel A* |
| — | 3 | 2 | — | Under Falsk Flagg | *cr f A* |
| — | 7 | 6 | 3 | Under the Red Robe | *hist A* |
| 2 | 19 | 1 | — | Under Two Flags | *adv A* |
| — | 7 | 7 | 4 | Under Your Spell | *mus-rom AYC* |
| | — | 2 | 3 | U. S. S. R.—1937 | *trav AY* |
| 5 | 17 | 7 | 1 | Valiant Is the Word for Carrie | *biog A* |
| — | 4 | 1 | — | Varsity Show | *mus-com AY* |
| — | 1 | 1 | — | Victoria the Great | *biog AY* |
| 3 | 5 | 1 | — | Vogues of 1938 | *mus-com AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 17 | 13 | — | Waikiki Wedding | *mus-com A* |
| 2 | 16 | 3 | — | Wake Up and Live | *mus-com AY* |
| — | 2 | 1 | 1 | Walking on Air | *com AY* |
| — | 14 | 3 | 2 | Wanted: Jane Turner | *cr AY* |
| — | 4 | 2 | 2 | The Wave | *soc f A* |
| — | 7 | 5 | 3 | Way out West | *com AY* |
| — | 9 | 11 | 6 | We Have Our Moments | *com-mys AY* |
| — | 12 | 13 | 5 | We Who Are about to Die | *mel A* |
| — | 9 | 7 | 8 | Wedding Present | *com AY* |
| 9 | 17 | 2 | — | Wee Willie Winkie | *com AYC* |
| — | 1 | 3 | 7 | Week-end Millionaire | *com A* |
| — | 1 | — | 1 | We're in the Legion Now | *com A* |
| — | 15 | 8 | 4 | We're on the Jury | *com AYC* |
| — | — | 3 | 3 | What Price Vengeance? | *cr A* |
| — | 15 | 8 | 4 | When Love Is Young | *com AY* |
| — | — | 6 | 5 | When Thief Meets Thief | *cr A* |
| 3 | 16 | 3 | — | When You're in Love | *mus-rom AYC* |
| 2 | 4 | 5 | 2 | When's Your Birthday? | *com AY* |
| — | 3 | 11 | 3 | White Bondage | *soc A* |
| — | 4 | 1 | — | White Gods | *trav f AY* |
| — | — | 5 | 10 | White Hunter | *mel A* |
| — | 1 | 3 | 3 | White Legion | *mel A* |
| — | 3 | 4 | 3 | Wild and Wooly | *wes AYC* |
| — | 3 | 8 | 7 | Wild Brian Kent | *wes AYC* |
| — | — | 3 | 1 | Wild Horse Roundup | *wes AYC* |
| — | 11 | 4 | 2 | Wild Money | *com AY* |
| — | 2 | 2 | 2 | Windjammer | *adv AY* |
| 12 | 16 | 2 | 2 | Wings of the Morning | *rom AY* |
| — | 9 | 9 | 2 | Wings over Honolulu | *adv AY* |
| — | 1 | 4 | 6 | Wine, Women and Horses | *cr A* |
| 26 | 3 | — | 1 | Winterset | *rom AY* |
| 1 | 16 | 8 | 1 | Wives Never Know | *com AY* |
| 3 | 14 | 9 | 1 | Woman Alone | *mys AY* |
| — | 19 | 7 | 4 | Woman Chases Man | *com AY* |
| 1 | 10 | 7 | 9 | Woman I Love | *rom AY* |
| — | 4 | 3 | 2 | Woman in Distress | *com AY* |
| 5 | 12 | 12 | 1 | Woman Rebels | *soc AY* |
| — | 4 | 12 | 2 | Woman Wise | *cr AY* |
| — | — | 1 | 1 | Women Men Marry | *rom A* |
| — | 1 | — | 12 | Women of Glamour | *rom A* |
| — | 5 | 3 | — | World's in Love | *mus-rom f AY* |
| — | 1 | 1 | — | Yodelin' Kid from Pine Ridge | *wes AYC* |
| 7 | 4 | 1 | — | Yellow Cruise | *trav f AYC* |
| — | — | 3 | 5 | Yellowstone | *rom AY* |
| — | 2 | 2 | — | You Can't Beat Love | *com AY* |
| — | 9 | 5 | 4 | You Can't Buy Luck | *com AY* |
| 2 | 14 | 5 | 2 | You Can't Have Everything | *mus-com A* |
| 3 | 20 | 6 | 1 | You Only Live Once | *soc A* |
| — | 2 | 8 | 6 | You're in the Army Now | *com A* |
| 1 | 2 | 1 | — | Zamboanga | *rom f AY* |

# *AUTOMOBILES OF* 1937

THE automobiles of 1938 are already on the market or they will be shortly on exhibition in the showrooms. Nevertheless, there are three ample reasons for publishing at this apparently late date a discussion of the automobiles of 1937. In some instances, the 1937 cars may still be purchased new from dealers at a substantial mark-down. Tens of thousands of consumers will be in the market for used cars of the 1937 models. Furthermore, according to reliable opinions in the automotive industry itself, the makers of automobiles are not, in this period of the industry, minded to introduce any substantial improvements in the essential features of their cars, which means that the 1938 models will, in all probability, closely resemble their 1937 predecessors—the announcement of "revolutionary innovations" to the contrary notwithstanding.

It is important to bear in mind that this report on 1937 automobiles is based not on exhaustive tests, but on the opinions of qualified automotive engineers, and that the ability of such engineers to judge cars without bias and with a high degree of engineering accuracy and reliability has been proven by the acknowledged dependability of our previous automobile ratings and by the way in which their predictions for the fate of various gadgets and fitments and the increased use of other features of substantial merit have been borne out by subsequent events and developments.

For the purpose of more certain identification and comparison, the following data are listed after the name of each car: model or other designating number, number of cylinders, f.o.b. price, extra cost for delivery in New York City (including safety glass which is a requirement in New York and many other states, maximum horsepower, engine speed at which maximum horsepower is developed, wheelbase length, over-all length (when available), weight, brake factor, estimated depreciation to be expected the first year. Depreciation represents the difference between the original New York delivered price of the most nearly comparable 1936 car and the retail sales value on that car turned in as a used car, as

given in the *Blue Book, National Used Car Market Report* of November-December, 1936.

The following special features, which are further discussed under their respective headings after the price groups, have also been included when they occur in a car: independent wheel suspension (indicated only by the name of one of the five types, i.e., *Sizaire, Sizaire Modified, Dubonnet, Delage,* and *Leon Laisne*), automatic choke, and voltage regulation. Failure to list a feature means that, so far as Consumers' Research's information goes, the particular car in question lacked it at the time this part of their compilations was prepared (January 15, 1937).

The price quoted for each car was secured in New York City.[1] Consumers' Research has taken pains to be accurate, but the prices, and in some cases the details of specifications, cannot be guaranteed on some makes and models because of changes which occur, often without announcement to consumers, after production is under way and during the preparation of this report.

## Price Group 1—$450 to $555

Group 1 is the economy group where a lower fuel consumption and more actual transportation per dollar are to be obtained. It is believed that a large number of fleet owners (that is, automobile buyers who buy a considerable number of identical cars, having in mind minimum total cost of operation, repair, and maintenance over a period of years) will buy from this group rather than Group 2 this year. The public's acceptance of this class of automobile will determine the competition to be expected in lower-priced automobiles in the future. The depreciation of last year's only comparable car in this group was $192.

### Recommended

*Willys 4,* 37 ($450 f.o.b. plus $125 del'd N.Y.C.) 48 hp at 3200 rpm. 100-inch wheelbase. Over-all length 175¼ inches. Weight 2250 pounds. Brake factor 45, above the average. Depreciation $192.

[1] The New York City delivered price should, on the whole, be representative of a large part of the United States, since New York City is far enough from the automobile manufacturing district in the Middle West for freight rates to be considered about average. The sales taxes will differ slightly but for the purpose of computation can be considered average.

almost as high as *Ford* but is not as high as might be expected considering the company's past financial condition. The company has refinanced and is apparently in better condition than it has been for years. This year's *Willys* differs considerably from previous models. The tread has been increased from 51 inches to 56 inches, and over-all length to 175¼ inches; the wheelbase has been retained at 100 inches. Can be considered a good buy if somewhat cramped leg room not important. This company is offering only two models in passenger cars—a coupe and a four-door sedan. This simplification of models should afford a considerable saving in die and production costs, which this maker can, if he chooses, pass on to the consumer in finish and workmanship or in still further lowered price. The radiator grille is a set of louvers stamped into the hood sheet. This is an economical and sensible means of producing a grille compared with the intricate, expensive types of cast and stamped chromium-finished grilles on the other cars. This car will, it is believed, average about 25 miles per gallon of gasoline.

### Qualified Recommendation

*Ford V-8*, "60" $555 f.o.b. plus $110 del'd N.Y.C.) 60 hp at 3500 rpm. 112-inch wheelbase. Over-all length 179½ inches. Weight 2435 pounds. Brake factor 58, highest of any car; the brakes should, therefore, give exceptionally long life. Depreciation figure not available since this is a new car this year. This car is equipped with a 136-cubic inch engine (the "85" has 221 cubic inches), which is only two cubic inches more than the *Willys*. It is only 185 pounds heavier than the *Willys*. There need be less expectation than usual of the occurrence of the defects which are commonly encountered with a new engine, since this engine has been built for almost two years for Ford's European market. The clutch, transmission, and engine are different from the "85." Although the same body is used on both *Fords*, this car is certainly priced too high as it is only $40 cheaper than the "85." Available only without de luxe equipment and in five body types. An improvement in economy is to be expected since the engine will be operating at nearer full throttle, where it is more efficient. There will be very few people for whom the *Ford* "60" will not be a preferable buy to the overpowered *Ford* "85," with which it is in fact competitive. In states where cars are taxed by horsepower and not by weight, the tax will be considerably lower for this car than for the *Ford* "85."

## Price Group 2—$595 to $600

Group 2 is the competition group and contains only the "big three"—*Ford, Chevrolet,* and *Plymouth*—all at practically the same price. The following items are common to all three: all-steel bodies, full-length water jackets, 112-inch wheelbase

and approximately the same horsepower. The weights differ less than 200 pounds. More detailed differences will be brought out in the listings. It should be noted that these cars appear also in Group 3 as "de luxe" models having the same engines, with an added price for additional accommodations, appliances, and attractions. Any of the cars in this group, it is believed, will give comparatively satisfactory and economical transportation. The average depreciation for the group is $208.

### Recommended

*Plymouth Business 6* ($595 f.o.b. plus $103 del'd N.Y.C.) 82 hp at 3600 rpm. 112-inch wheelbase. Over-all length 193 inches, longest in group. Weight 2770 pounds. Brake factor 42, below the average. Depreciation $216, highest in group. Equipped with lamp-voltage regulation, the cheapest car with this equipment. The compression ratio is 6.70 to 1, which is higher than either *Ford* "85" or *Chevrolet,* and means this car will tend to require a higher octane number fuel. Lacks brake torque equipment. There is very little difference in money value offered by this car and the *Chevrolet.* Ignition systems may still give trouble in driving rains due to effect of becoming wet. *Plymouth Business* models are also available at $20 extra with slightly modified chassis, and 20-inch disc wheels to give 1¼ to 1½ inches greater road clearance for driving over exceptionally muddy or high-crowned roads or deeply rutted country roads and lanes. The additional road clearance, though apparently very small in amount, is an important factor in driving on exceptionally bad roads. Economy carburetors with special intake manifolds are also available.

*Chevrolet Master 6* ($600 f.o.b. plus $111 del'd N.Y.C.) 85 hp at 3200 rpm. 112-inch wheelbase. Over-all length 187 inches. Weight 2845 pounds. Brake factor 44, below the average. Depreciation $209, about average for group. The steel body and other improvements have raised the utility of this car this year. Lacks brake torque equipment. We understand that the Carter Carburetor Corporation have made a change in the design of the carburetor used by Chevrolet, a step metering pin being substituted for the tapered metering pin. Ignition systems may still give trouble in driving rains due to their becoming wet. Available with larger diameter wheels on the de luxe models only by special order.

### Qualified Recommendation

*Ford V-8,* "85" ($595 f.o.b. plus $113 del'd N.Y.C.) 85 hp at 3800 rpm. 112-inch wheelbase. Over-all length 179½ inches, thirteen inches less than *Plymouth* and seven inches less than *Chevrolet.* Weight 2649 pounds. Brake factor 55, only the *Ford* "60" is higher. Depreciation $198, smallest in group. Only car in this group with

brake torque equipment. Note that the next higher-priced eight-cylinder car with a dual carburetor has a delivered price of $1,033. An important measure of a car's utility and usefulness lies in its ability to start in cold weather or under abnormal conditions, e.g., very wet weather. The *Stromberg* carburetor and the *Ford* closed ignition system are undoubtedly the chief elements contributing to the *Ford's* unquestionably easy starting. The Ford exchange of parts plan is a very important and desirable arrangement. For instance, when a *Ford* carburetor fails to function satisfactorily, the owner may go to any *Ford* or *Stromberg* agency and obtain a factory-reconditioned and -adjusted unit. The exchange price will be low and time involved small. This exchange plan applies not only to carburetors, but to engine units, generators, distributors, starters, fuel pumps, shock absorbers, and many other *Ford* assemblies. By this plan the consumer not only saves time and money, but he is sure that the exchange unit has been overhauled by a factory-trained expert, using proper tools, gauges, and measuring devices, and not by a mechanic without special skill and training and often without proper facilities. Only the Ford organization offers this plan. ¶This is the only car in this group with cylinder heads of a material having thermal conductivity properties higher than cast iron, and safety glass throughout as standard equipment. This car will give almost as comfortable a ride as any car on the market and has nearly as satisfactory action on the road (road-holding ability—"roadability"). On some *Fords,* brakes have given very poor (sometimes uneven) performance, which should be carefully guarded against, to the extent possible, by the intending purchaser. In level country and high-speed driving particularly, considerable fuel and oil saving can be achieved by using one of the lower gear ratios available giving a lower number of engine revolutions per mile. Also available with larger wheels.

## Price Group 3—$640 to $675

Group 3 is the de luxe competition group, including the *Plymouth, Chevrolet,* and *Ford De Luxe* models, which are practically the same cars as those in Group 2 with added items for appearance, comfort, better upholstery, etc., which are of secondary importance. These three models have been included in order to list all cars in direct competition within this price range. A special effort is usually made by automobile salesmen to sell the de luxe models whenever it can possibly be done, and various discouragements and disadvantages, such as extremely delayed delivery (on a supposedly inferior mechanism) are exaggerated with respect to the "standard" (i.e., *sub*-standard) models, to make this possible. The consumer who is

tempted to buy a de luxe model should remember that though he will pay about $70 more for the attractions offered, he will, when turning in the car, be given only about one-third of his $70 as credit at the end of the first year and practically nothing if he turns it in a later year. In some rural localities, no additional credit is given for de luxe models on a turn-in. Average estimated depreciation of this group is $257.

RECOMMENDED

*Chevrolet Master De Luxe 6* ($660 f.o.b. plus $119 del'd N.Y.C.) 85 hp at 3200 rpm. 112-inch wheelbase. Over-all length 187 inches. Weight 2935 pounds. Brake factor 43, below average. Depreciation $250. *Dubonnet.*

*Plymouth De Luxe 6* ($670 f.o.b. plus $109 del'd N.Y.C.) 82 hp at 3600 rpm. 112-inch wheelbase. Over-all length 193 inches, one of longest in group. Weight 2840 pounds. Brake factor 41, below average. Depreciation $247. Voltage regulation. Lacks brake torque equipment. General comments under *Plymouth Business 6* apply to this car.

QUALIFIED RECOMMENDATION

*Ford V-8 De Luxe,* "85" ($640 f.o.b. plus $133 del'd N.Y.C.) 85 hp at 3800 rpm. 112-inch wheelbase. Over-all length 179½ inches. Weight 2671 pounds. Brake factor 54, highest in group. Depreciation $217, lowest in group and almost $100 or 43 per cent lower than the highest in this group. General statements under Standard *Ford V-8* apply to this car.

*Terraplane De Luxe 6* ($675 f.o.b. plus $170 del'd N.Y.C.) 96 hp at 3900 rpm. 117-inch wheelbase. Over-all length 193 inches. Weight 2865 pounds. Brake factor 43. Depreciation $264, next to highest in group. Voltage regulation.

## Price Group 4—$700 to $790

This is the plutocrat group of the lower price range, the group for those with an extra $200 to pay for their conviction that some conveniences and gadgets beyond those of the economy cars are worth the sizable increase in initial price which they account for. Seven of the nine cars in this group have automatic chokes, overdrive is optional on three, and only three are lacking equipment to take the brake torque. Average depreciation is $318.

RECOMMENDED

*Pontiac 6* ($745 f.o.b. plus $136 del'd N.Y.C.) 85 hp at 3520 rpm. 117-inch wheelbase. Over-all length 193 inches. Weight 3235 pounds.

Brake factor 40, below average. Depreciation $254, lowest in group. Voltage regulation. *Sizaire*. Automatic choke. Semi-centrifugal clutch. Note that this car has changed this year from the *Dubonnet* to the more desirable *Sizaire* type and from the wooden frame to a steel frame body. This car has made more worth-while improvements this year than probably any other car. First choice in group.

*Studebaker Dictator 6* ($745 f.o.b. plus $204 del'd N.Y.C.) 90 hp at 3400 rpm. 116-inch wheelbase. Over-all length 192, shortest in group. Weight 3100 pounds. Brake factor 36, third from the lowest. Depreciation $309. Automatic choke. Independent wheel suspension, including brake torque equipment, may be obtained on this car for an additional $20 and on account of the latter feature this combination is recommended. Automatic overdrive is available but at $45 extra; it is doubtful that the advantages gained will reimburse the purchaser.

*De Soto 6* ($785 f.o.b. plus $124 del'd N. Y. C.) 93 hp at 3600 rpm. 116-inch wheelbase. Over-all length 199 inches. Weight 3039 pounds. Brake factor 39, below average. Depreciation $325, not high considering that last year's car was $810 f.o.b. Voltage regulation. *Sizaire*. Automatic choke. Overdrive available at extra cost.

*Oldsmobile 6* ($790 f.o.b. plus $181 del'd N.Y.C.) 95 hp at 3400 rpm. 117-inch wheelbase. Over-all length 193 inches. Weight 3310 pounds. Brake factor 36, below average. Depreciation $306. Voltage regulation. *Sizaire*. Automatic choke.

*Dodge 6* ($745 f.o.b. plus $114 del'd N.Y.C.) 87 hp at 3600 rpm. 115-inch wheelbase, shortest in group. Over-all length 196 inches, about average. Weight 2912 pounds, lightest car in group. Brake factor 40, below average. Depreciation $277, next to lowest in group. Voltage regulation. Automatic choke. A very good buy except for lack of brake torque equipment.

### Qualified Recommendation

*Graham Cavalier 6*, 95 ($775 f.o.b. plus $165 del'd N.Y.C.) 85 hp at 3300 rpm. 116-inch wheelbase, one of the shortest. Over-all length 198 inches. Weight 2960 pounds. Brake factor 34, lowest in group. Depreciation $402, highest in group. Highest compression ratio in group. Lacks brake torque equipment.

*Nash Lafayette 6*, 400 ($700 f.o.b. plus $171 del'd N.Y.C.) 90 hp at 3400 rpm. 117-inch wheelbase. Over-all length 196 inches, about average. Weight 3240 pounds. Brake factor 44, above average. Depreciation $357, next to highest in group. Overdrive is available at extra cost. One of the three cars in this group without voltage regulation. Lacks brake torque equipment.

*Terraplane Super De Luxe 6* ($725 f.o.b. plus $170 del'd N.Y.C.) 101 hp at 4000 rpm. 117-inch wheelbase. Over-all length 193 inches. Weight 2905 pounds. Brake factor 42, below average. Depreciation figure not available as there was no comparable car last year, but

it will probably be high (see *Terraplane De Luxe,* Group 3). Voltage regulation. Automatic choke.

*Hudson 6* ($790 f.o.b. plus $187 del'd N.Y.C.) 101 hp at 4000 rpm 122-inch wheelbase, longest in group Over-all length 198 inches, one of the three longest. Weight 2990 pounds. Brake factor 41, below average. Depreciation $315. Voltage regulation. Automatic choke. One of the two cars in group without full-length water jacket. Mechanical differences between this car and the *Terraplane Super De Luxe 6* judged relatively unimportant.

## Price Group 5—$805 to $895

The average depreciation of Group 5 is $369.

### Recommended

*Buick 8,* 40 ($845 f.o.b. plus $188 del'd N.Y.C.) 100 hp at 3200 rpm 122-inch wheelbase. Over-all length 200 inches. Weight 3510 pounds Brake factor 37, lowest in group. Depreciation $359. Voltage regulation. *Sizaire.* Automatic choke. One of the two cars in this group without full-length water jacket. Only car in group without defroster openings in dash.

*Chrysler Royal 6* ($815 f.o.b. plus $143 del'd N.Y.C.) 93 hp at 3600 rpm. 116-inch wheelbase. Over-all length 199 inches. Weight 3049 pounds. Brake factor 39, below average. Depreciation $318, one of the lowest. Voltage regulation. *Sizaire.* Automatic choke. Overdrive available at extra cost.

### Qualified Recommendation

*Packard 6* ($895 f.o.b. plus $151 del'd N.Y.C.) 100 hp at 3600 rpm 115-inch wheelbase, shortest in group. Over-all length 194 inches, shortest in group. Weight 3265 pounds. Brake factor 42, below average. Depreciation figure not available since this is a new car this year. Voltage regulation. *Sizaire Modified.* Automatic choke. Wooden body frame. Only car in this or any lower group with a fabric top.

*Nash Ambassador 6* ($845 f.o.b. plus $173 del'd N.Y.C.) 95 hp at 3400 rpm. 121-inch wheelbase. Over-all length 200 inches. Weight 3400 pounds. Brake factor 43. Depreciation $387. Overdrive at extra cost. One of two cars in group lacking voltage regulation.

*Graham Supercharger 6,* 116 ($895 f.o.b. plus $200 del'd N.Y.C.) 106 hp at 4000 rpm. 116-inch wheelbase. Over-all length 198 inches. Weight 3125 pounds. Brake factor 42, below average. Depreciation $420. Overdrive available at extra cost.

*Hudson 8* ($840 f.o.b. plus $199 del'd N.Y.C.) 122 hp at 4200 rpm. 122-inch wheelbase. Over-all length 202 inches. Weight 3135 pounds. Brake factor 43. Depreciation $364. Voltage regulation. Automatic

choke. One of the two cars in this group without full-length water jacket.

*Pontiac 8* ($805 f.o.b. plus $136 del'd N.Y.C.) 99 hp at 3800 rpm. 122-inch wheelbase. Over-all length 198 inches. Weight 3380 pounds. Brake factor 39, below average. Depreciation $299, lowest in group. Voltage regulation. *Sizaire.* Automatic choke. Note that this is the only eight-cylinder engine with a single carburetor.

*Oldsmobile 8* ($890 f.o.b. plus $193 del'd N.Y.C.) 110 hp at 3600 rpm. 124-inch wheelbase. Over-all length 200 inches. Weight 3510 pounds. Brake factor 38, next to lowest in group. Depreciation $409, highest in group. Voltage regulation. *Sizaire.* Automatic choke.

## Price Group 6—$945 to $1,190

Average depreciation is $480.

### Recommended

*Chrysler Imperial 8* ($995 f.o.b. plus $146 del'd N.Y.C.) 110 hp at 3600 rpm. 121-inch wheelbase. Over-all length 204 inches. Weight 3366 pounds. Brake factor 43. Depreciation $421; next to lowest in group. Voltage regulation. *Sizaire.* Automatic choke. Overdrive available at extra cost. Trunk is standard equipment.

*Studebaker President 8* ($1015 f.o.b. plus $262 del'd N.Y.C.) 115 hp at 3600 rpm. 125-inch wheelbase. Over-all length 201 inches. Weight 3600 pounds. Brake factor 35, lowest in group. Depreciation $502, about average for group. Voltage regulation. *Deluge.* Automatic choke. The new automatic overdrive is available on this car at $50 extra. Trunk is standard equipment.

*Buick 8*, 60 ($1035 f.o.b. plus $213 del'd N.Y.C.) 130 hp at 3400 rpm. 126-inch wheelbase, longest in group. Over-all length 203 inches. Weight 3724 pounds. Brake factor 41, below average. Depreciation $504, about average. Voltage regulation. *Sizaire.* Automatic choke. One of three cars lacking defroster outlets.

*La Salle V-8* ($1145 f.o.b. plus $150 del'd N.Y.C.) 125 hp at 3400 rpm. 124-inch wheelbase. Over-all length 202 inches. Weight 3810 pounds. Brake factor 48, well above average and same as on the *Cadillac* 60. Depreciation $555. Voltage regulation. *Sizaire.* Automatic choke. Lacks defroster outlet.

*Lincoln Zephyr V-12* ($1190 f.o.b. plus $173 del'd N.Y.C.) 110 hp at 3900 rpm. 122-inch wheelbase. Over-all length 206 inches. Weight 3349 pounds. Brake factor 41, below average. Depreciation $560. This car certainly has the safest body in this or any lower group with the exception of Cord and Chrysler *Airflow.*

### Qualified Recommendation

*Nash Ambassador 8* ($945 f.o.b. plus $247 del'd N.Y.C.) 105 hp at 3400 rpm. 125-inch wheelbase. Over-all length 200 inches. Weight

3720 pounds. Brake factor 48, above the average. Depreciation $458. Voltage regulation. One of two cars in this group lacking brake torque equipment. One of three cars in this group lacking automatic choke. Overdrive available at extra cost. Trunk is standard equipment.

*Graham Custom Supercharger 6,* 120 ($995 f.o.b. plus $210 del'd N.Y.C.) 116 hp at 4000 rpm. 120-inch wheelbase. Over-all length 202 inches. Weight 3200 pounds. Brake factor 41, below average. Depreciation $425. One of two cars in group lacking brake torque equipment. Overdrive available at extra cost. One of three cars in group lacking automatic choke.

## Price Group 7—$1,475 to $2,335

Average depreciation is $854.

### Recommended

*Chrysler Custom Imperial 8* ($1895 f.o.b. plus $223 del'd N.Y.C.) 130 hp at 3400 rpm. 140-inch wheelbase, longest in this or the next group. Over-all length 223 inches, one of two longest in group. Weight not available. Depreciation figure not available. Voltage regulation. *Sizaire.* Automatic choke. Overdrive standard equipment.

*Cadillac V-8,* 60 ($1545 f.o.b. plus $165 del'd N.Y.C.) 135 hp at 3400 rpm. 124-inch wheelbase. Over-all length 202 inches. Weight 3845 pounds. Brake factor 48, well over the average. Depreciation $672. Voltage regulation. *Sizaire.* Automatic choke. Trunk is standard equipment.

*Chrysler Airflow 8* ($1475 f.o.b. plus $195 del'd N.Y.C.) 130 hp at 3400 rpm. 128-inch wheelbase, next to longest in group. Over-all length 213 inches. Weight 4203 pounds. Brake factor 40, below average. Depreciation $576, lowest in group. Voltage regulation. Automatic choke. Only car in group lacking brake torque equipment. Overdrive and trunk standard equipment.

### Qualified Recommendation

*Cord V-8* ($1995 f.o.b. plus $330 del'd N.Y.C.) 115 hp at 3600 rpm. 125-inch wheelbase. Over-all length 195 inches. Weight 3715 pounds, lightest in group. Brake factor 48, well above average. Depreciation $935. *Leone Laisne.* Automatic choke.

*Packard Super 8* ($2335 f.o.b. plus $395 del'd N.Y.C.) 130 hp at 3200 rpm. 127-inch wheelbase. Over-all length 223 inches. Weight 4530 pounds. Brake factor 49, well over average. Depreciation $1234, highest in group. Voltage regulation. *Sizaire Modified.* Automatic choke. Wooden body frame and fabric top.

## Price Group 8—$3,195 to $4,400

Average depreciation is $2065.

### Recommended

*Cadillac V-12* ($3345 f.o.b. plus $260 del'd N.Y.C.) 150 hp at 3600 rpm. 138-inch wheelbase, one of the longest. Over-all length 215 inches. Weight 5050 pounds. Brake factor 44. Depreciation $1489, lowest in group. Voltage regulation. *Sizaire.* Automatic choke. Wooden body frame and steel top.

*Pierce-Arrow 8* ($3195 f.o.b. plus $425 del'd N.Y.C.) 150 hp at 3400 rpm. 138-inch wheelbase. Over-all length 198 inches. Weight 5675 pounds. Brake factor 53, well above average. Depreciation $1939, $450 higher than the *Cadillac V-12.* Voltage regulation. Automatic choke. Wooden body frame and fabric top. Overdrive standard equipment.

*Pierce-Arrow V-12* ($3695 f.o.b. plus $465 del'd N.Y.C.) 185 hp at 3400 rpm. 138-inch wheelbase. Over-all length 216 inches. Weight 5920 pounds. Brake factor 51, well above average. Depreciation $2279. Voltage regulation. Automatic choke. Overdrive standard equipment. Wooden body frame and fabric top.

*Lincoln V-12* ($4400 f.o.b. plus $221 del'd N.Y.C.) 150 hp at 3400 rpm. 136-inch wheelbase. Over-all length 222 inches. Weight 5552 pounds. Brake factor 52, well above average. Depreciation $2263. Voltage regulation. Steel frame covered with aluminum. Steel top. Only car in group lacking automatic choke.

### Qualified Recommendation

*Packard V-12* ($3490 f.o.b. plus $470 del'd N.Y.C.) 175 hp at 3200 rpm. 132-inch wheelbase. Over-all length 228 inches, longest in group. Weight 5395 pounds. Brake factor 54; only two cars, *Ford* "60" and *Ford* "85," are higher. Depreciation $2354, highest in group. Voltage regulation. *Sizaire Modified.* Automatic choke. Wooden body frame and fabric top.

## Price Group 9—$7,350—up

Depreciation is $4800.

### Qualified Recommendation

*Cadillac V-16,* 7 passenger ($7350 f.o.b. plus $150 del'd N.Y.C.) 185 hp at 3800 rpm. 154-inch wheelbase. Over-all length 238 inches. Weight about 6190 pounds. Brake factor 36, very low. Depreciation $4800. Voltage regulation. *Sizaire.* Automatic choke. Wooden frame body. This is the only seven-passenger car listed; however, it is included to permit comparison of the commercial depreciation, which is about twenty-four times as high as that of *Chevrolet, Ford,* or *Plymouth,* while the purchase price is only ten times as high.

# MOUTHWASHES

*By*

EDWARD M. ANDRES

*Edited by* GEORGE R. WARNER, M.D., D.D.S.

MOUTHWASHES, like dentrifices, are not new in history. For not less than three thousand years men have tried to improve their health by using mouthwashes. Pyorrhea treatments in the form of mouthwashes were frequently prescribed by the ancients. Pliny says: "To make loose teeth firm some recommend the soaking of two frogs, after having cut off the feet, in a hemina of wine and washing of the mouth with the latter."

### Some Mouthwashes Harmful

Under the pressure of modern advertising the American people have developed a mouthwash habit which may even be harmful instead of being beneficial; it is certainly economically wasteful. Many mouthwashes contain drugs which act as astringents. This astringent effect deceives the user. He thinks he is getting desirable results. In the every-day use of such a mouthwash he is more likely preparing his gums for easier invasion by bacteria by hindering the flow of blood to the surface tissues or by the irritating effect of the drugs upon the gums. Some people use a mouthwash instead of a toothbrush. This practice is decidedly bad.

One of the most important purposes of brushing the teeth and gums is to stimulate the circulation of blood. This is necessary because the top parts of the gums have very few veins in them. By massaging with the brush the blood is squeezed in and out of the capillaries. An astringent mouthwash will not even help in this process; it certainly must not be substituted for the toothbrush.

Reprinted from *"Dentifrices and Tooth Brushes,"* published by Phoenix Junior College, Phoenix, Arizona, 25c postpaid

Medicated mouthwashes have their place in the treatment of certain diseases of the mouth, but they should be used only when prescribed by a physician or dentist. They should be discontinued after the period of treatment is over.

### Mouthwashes and Halitosis

The American people have been reading the ads so long that many are disappointed if their dentists do not prescribe some spicy mouthwash as a cure-all. Mouthwashes are recommended by the advertisers for prevention of disease, bad-breath, halitosis), and as preservers of the teeth. The idea that mouthwashes prevent colds, Vincent's disease, gingivitis, and pyorrhea has not been supported by scientific research. Bad breath has many causes, viz.: lack of care of the teeth and tongue, stomach disorders, the use of certain foods,[1] diseased gums, salivary stagnation, decayed teeth, infected tonsils, nasal infections, and sinus infections, as well as certain other organic diseases. The proper way to treat bad breath is to remove the cause and not to attempt to cover one odor with another.

As an occasional mouthwash to correct a bad taste in the mouth, salt water is excellent. The use of one-half a teaspoonful of salt to a glass of warm water is satisfactory for this purpose. One-half teaspoonful of baking soda to a glass of warm water is also effective for this purpose.

There are two important exceptions to this statement. If a person has cavities in the teeth, or exposed roots, lime water instead of salt or soda should be used. Medicated mouthwashes are useless in the daily health activities of most people. Most mouthwashes are made to sell, and *not to use.*

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[1] Some research indicates that if certain preparations containing hypochlorites or their derivatives are used as mouthwashes, onion odor can be eliminated. Other research, however, points to the conclusion that onion odor is given off by the lungs as the blood is aerated. These conclusions can be reconciled in the following way: Certain mouthwashes containing hypochlorites or their derivatives may be effective in allaying onion odor which comes from the mouth shortly after onions have been eaten, but after the onions have been digested an onion odor comes from the lungs which cannot be allayed with any mouthwash. Mouthwashes containing hypochlorites have an odor which is itself offensive to some people.

The safest rule to follow is: *Don't use any mouthwash regularly except warm water, unless a well-trained dentist or physician prescribes another.*

### Mouthwash and Pyorrhea

Mouthwashes are often spoken of as cures for pyorrhea. Pyorrhea has been a malady of the human race for thousands of years. Practically no headway was made in its treatment until surgical methods were adopted. Pyorrhea is primarily a disease of that part of the jaw bone which forms the sockets of the teeth. The gums pull away from the teeth because of the destruction of the bone beneath the gums. No amount of so-called pyorrhea prescriptions or of mouthwashes, or of any form of medication whatsoever can cure it. Only quacks claim to cure or prevent this disease with mouthwashes. Only expert treatment with proper surgical instruments, followed by proper mouth hygiene and proper diet, can cure pyorrhea.

The much-advertised germ-killing power of commercial mouthwashes is a matter which deserves consideration. Even if a mouthwash were found to kill germs when placed in a culture tube, it might not kill germs in the mouth. Germs vary in their power to resist so-called germicides. When a solution is tested in the mouth, the conditions are quite different from those in a test tube in the laboratory. Advertising of a mouthwash played up the number of germs killed in a certain number of seconds. What kind of germs? Where were they? This tells us nothing about the power of this mouthwash in the mouth. A preparation could be an effective germicide and at the same time be very harmful to the soft tissue of the mouth.

Even if a mouthwash reduced the number of germs in the mouth, the mouth may soon be found to contain as many germs as before its use, or even more than before its use.

# NEW LIGHT ON CANCER'S CAUSE

*By*

RICHARD G. BERGER, B.S.

HE was my friend. Now he was dying—by degrees—starving to death. Cancer of the throat. No conscientious surgeon dared to operate. He expressed a last wish to me. Would I, who was trained as a research chemist, see if additional knowledge could be made available concerning the probable common cause of cancer?

Stimulated by this request I have given considerable time and effort during the past few years to study and experiments on the subject of probable major causes of the scourge of cancer. My purpose in this non-technical article is to promote thought and research which may possibly substantiate my own conclusions and theory as to the most common cause.

Every day in the United States there are more than three times as many lingering deaths by cancer as sudden deaths from motoring accidents. The automobile death toll has aroused righteous public indignation and galvanized action from the public and officials with prospects that it will be reduced. At the same time the terrific cancer death rate, not only in the United States but all over the civilized world, is increasing steadily year by year and is accepted with deplorable fatalism.

A statement of fact, and I do not mean this as condemnation of worthy efforts, is that in the matter of advancement of knowledge regarding the common causes of cancer, the medical profession seems to be making very little progress. Personally, I believe that identification of the factor—or irritant—most responsible for human cancer is a chemical and domestic science problem rather than a medical one.

History repeats itself. The terrible ravages of the epidemic diseases of centuries ago, which vied with wars to

prevent population overflow, have almost disappeared due to simple methods of prevention and control. The bubonic plague went with lice-infected rats, modern methods of hygiene have largely overcome tuberculosis, and yellow fever has succumbed to mosquito control. There would seem to be no warrant for saying that today's cancer problem is more complicated than the preceding scourges were in their time of dominance.

In thousands of surgical cases, operating surgeons have opened up patients, taken one look, and proceeded to close up the incision, believing the case to be hopeless. In countless instances of cancer affliction, relatives have prayed for merciful death to take the helpless victim. There is no need to dwell on the agonies of the cancer-tortured. Unfortunately too many of us are familiar from intimate contact.

The majority of the victims of lingering cancerous death have not been guilty of riotous or dissipated living. Some of them have lived model lives, and others, with minor vices, have had habits no different from those of their healthy neighbors.

From its very nature and its frequently advanced stage before discovery, cancer is incurable in a considerable percentage of cases, at the present time. A fair proportion of the so-called "cures" and "successful operations" are but for a five-year period. Approximately one-half of all the American cancer casualties have had one or more surgical operations because of a malignant condition. Personally, I believe that efforts seeking a cancer cure are largely wasted. *We must prevent cancer to overcome it,* and we cannot prevent it until we know its most common cause. That is the point on which our efforts must be concentrated.

Investigations by numerous competent observers confirm the fact that native races living under conditions of primitive existence are practically exempt from cancerous afflictions. Readers, skeptical of this statement, are referred to "Cancer in Native Races," by Frederick L. Hoffman, statis-

tician for the Prudential Insurance Company of America, which deals with cancer and its rarity among more than a score of less-civilized peoples. We find the problems of malignant disease affect the peoples of all civilized countries, with the highest rates generally in those countries having the colder climates. Of particular interest, and worthy of much thought, are the following cancer death rates per 100,000 population for certain foreign countries and the United States. They are for five-year periods, mostly 1928-1932, and are abstracted from *The New Zealand Year Book* for 1935.

CANCER DEATH RATES IN CERTAIN COUNTRIES

| | |
|---|---|
| Greece | 24.0 |
| Lithuania | 30.0 |
| Chile | 48.0 |
| Italy | 63.0 |
| Spain | 69.0 |
| Japan | 70.0 |
| Uruguay | 77.0 |
| Estonia | 78.0 |
| Union South Africa | 79.0 |
| Belgium | 88.0 |
| Canada | 92.0 |
| France | 95.0 |
| UNITED STATES | 96.0 |
| Australia | 99.0 |
| Hungary | 101.0 |
| New Zealand | 104.0 |
| Irish Free State | 110.0 |
| Czechoslovakia | 114.0 |
| Germany | 116.0 |
| Norway | 118.0 |
| Sweden | 119.0 |
| Northern Ireland | 120.0 |
| Netherlands | 123.0 |
| Switzerland | 140.0 |
| Denmark | 142.0 |
| England and Wales | 146.0 |
| Scotland | 147.0 |
| Austria | 148.0 |

I call particular attention to the comparatively high cancer death rate of northern and central European countries as contrasted with the relatively low rates for the southern European countries of Greece, Italy, and Spain. Because

the latter countries have warm, milder climates, more uncooked food is consumed. Moreover, a considerable proportion, when cooked, is prepared outdoors over wood fires.

An analogous situation exists in the United States. When summarizing the results of his investigation for 1921, Dr. W. H. Davis, Chief of Division of Vital Statistics, stated: "The adjusted rates show that the northern states have comparatively high and the southern states comparatively low cancer mortality." Using more recent data, I have made a comparison of ten northern with ten southern cities in the United States, taking the estimated populations and actual cancer rates per 100,000 for 1934. The southern cities, taken at random, were widely separated, while the northern ones were selected as most nearly the same size. When the cancer rates of Boston, Minneapolis, Portland (Oregon), Columbus, Jersey City, Toledo, Providence, Bridgeport, Albany, and Camden are compared with those of Baltimore, New Orleans, Houston, Atlanta, Louisville, Birmingham, Memphis, Jacksonville, Norfolk, and Tampa, I find the strikingly higher average rate of 146.2 for the northern cities and only 100.2 for the southern cities.

The preceding data concerning different countries and cities may be extremely important in leading to conclusions. When the prime cause of cancer is finally and definitely established, I am convinced it will be found to be some factor or contact or manner of living present in civilized peoples, and generally much more prevalent in the colder civilized countries and cities than in those situated in warmer climates.

Maud Slye of Chicago, who has devoted her life to the study of cancer by experimentation with mice, now has more than 100,000 autopsies of martyred mice to her credit. She has been telling the world for years that her investigations confirm two facts: that irritation by coal tar or some other chemical or mechanical irritant is one necessary factor in cancer incidence, and that the other factor is a

hereditary predisposition to tumorous growths.

Although cancer appears not to be hereditary, some people are much more susceptible to it than others. This susceptibility probably cannot be altered. However, we can avoid contact with active cancerogenic irritants, such as coal tar and its derivatives, in and on our foods, and in the air we breathe, providing we recognize and acknowledge the irritants as such, especially those which enter and come into contact with the human system most often, and most intimately.

Two generations ago in England, Sir Thomas Oliver, quoting figures from the Registrar General's report, stressed the fact that chimney sweeps had a cancer mortality figure of one hundred and fifty-six as compared with forty-four for other occupied males. The customary procedure for these chimney sweeps was for them to remove soot from the interior by climbing within and brushing the inside of the chimneys. According to information in "Cancer: Then and Now," by the New York City Cancer Committee, changes made since then in the methods of cleaning chimneys have almost entirely eliminated this source of malignant disease from the chimney sweep's occupation.

In Germany, investigation has shown that workers of the soil in physical contact with large quantities of chemical manures made as by-products from coal distillation have cancer rates several times as high as those persons employed in other occupations.

Of the more than half million deaths in the world yearly from cancer, in only a very small proportion of cases—approximately two per cent of the total—can the general cause be attributed beyond reasonable doubt. For me, these have the greatest educational value. The cases of known origin and recognized causes are the occupational skin cancers, frequently called "Tar Cancers." These are contracted by workers in certain occupations pertaining largely to coal and petroleum distillation products, such as are found in the

following industries: coal tar, coal oil, gas works, creosote, pitch, Scotch shale oil, crude mineral oil, paraffin oil, and petroleum oil refining.

The reason I call attention to the preceding is that in our homes whenever food is prepared by heat using the most common fuels of civilization—coal, illuminating gas (which may be coal gas, natural gas, or water-gas), or fuel oil—not all of the sooty and other combustion products travel up the chimney. A small portion of the combustion products—especially during the cooking processes of broiling, roasting, baking, and other preparation methods where no vessel intervenes between the flame and the food—is deposited upon our foods and taken into the human system. Continued contact with these identical and congeneric substances in industry causes occupational skin cancer in workers. This last is fact—not theory.

One of the refinements of civilization has been the increased use of fuels, such as coal, illuminating gas, and fuel oil, in place of the wood largely used outdoors by savages, those living nearer to nature, and the populations of warmer climates all over the world. The woman who bends over a coal stove receives upon herself some deposits of coal tar and its distillation products, especially if soft or bituminous coal is used, or the fire is smoky. True, these deposits are not as concentrated or as potent as the incrustations received by locomotive firemen who frequently contract skin cancers on the shins, hands, and face. When you smell the fumes from a furnace, you are inhaling coal tar distillation products into your system. Because a large proportion of our cooked food is prepared by subjecting it to the flames and fumes of the fuels indicated, it must necessarily receive deposits of coal distillation products.

In that comprehensive compilation of data known as "San Francisco Cancer Survey," conducted by Frederick L. Hoffman over the eleven-year period (1923-1933), he found that the average age at death of 44,502 American

victims tabulated was 58.5 years. This age tallies closely with the average of other civilized countries. Although the quantity absorbed each day is minute, during fifty-eight years a considerable quantity of irritants recognized to have active cancer-producing properties will have been taken into the human system by means of our flame- and heat-treated foods. It is possible that these irritants may then be distributed by means of the blood stream throughout the human system so as to enable them to attack and affect the weakest, or an impaired, organ of a susceptible individual.

While we are deliberating upon the table of "Cancer Death Rates in Certain Countries," a number of pertinent factors should be taken into consideration. In European countries more soft and semi-bituminous coal—which generates more coal-tar products than does the so-called "hard coal"—is used for domestic purposes per capita than in the United States. It is interesting to note here, that with the exception of the warmer Mediterranean nations, European countries have higher cancer rates than the United States.

Shale oil, largely produced and used in Scotland, has been found to have skin-cancer-producing properties approximately ten times as great as those of similar petroleum oils. Scotland has the doubtful honor of having one of the highest cancer death rates in the world.

The relatively cold countries (Norway and Sweden), ordinarily, should be expected to have very high cancer rates. It happens, however, that in many communities of these northern countries hydroelectric power is available and utilized generally for household cooking and heating devices. Perhaps that is why the cancer rates of these countries are more moderate than those of a number of warmer continental nations.

* * *

Now I present my own thought regarding the most probable common cause of human cancer. My logical theory

regarding this, among the ninety-eight per cent of the total cases now of unrecognized origin, is that it is due to the same irritants as those that have been causative of the occupational tar cancers, with a different point of attack or irritation. In many persons the provocative agents must attack internally. My conviction is that most cancers should be recognized as internal "tar cancers" which result from irritants (exact chemical compositions not identified at the present time) taken internally with our food and known to be types of substances that have very active cancer-producing properties. I am convinced that throughout the human life-span these irritants are taken internally with much of the heat-prepared food of modern civilization.

The facilities at my command were too limited for me to do more than scratch the surface of this momentous problem. As is to be expected, the reactions among humans during the fifty-eight years it takes, on the average, to break down human resistance by way of cancer are tremendously complex, and so evade many modes of attack by researches. They are much more difficult to isolate than the rapid reactions which can be developed in a laboratory in the short space of a few months with rodents used as test animals. Such experimental cancers can and have been produced time after time on mice by repeated external applications of coal-tar-containing constituents identical with, and akin to, those in many of our household fuels.

After considerable study and effort, I have submitted my own thoughts on the probably common cause of cancer in the sincere hope that those equipped to verify my conclusion will give it their consideration and the acid test of test and experiment under controlled laboratory conditions. It must be the goal of all of us to eliminate this insidious menace of modern civilization with its dire consequences—great suffering and a lingering death. If we succeed, billions of years of less-troubled life in aggregate will be made available to the populations of the earth.

*Editor's Note: Consumers' Digest* is interested in printing this article by Mr. Berger because Consumers' Research has seen much evidence indicating the possibility of cancers being caused by some sorts of poisonous substances taken into or coming into contact with the body. There is much reason to believe that the causes of cancers may be multiple, rather than capable of being ascribed to a single factor. On the other hand, there is a great deal of evidence indicating that cancers are often caused by a source of irritation in body tissues, sometimes mechanical and sometimes chemical. ¶ Of the chemical causes, coal tar and its many chemical products are especially to be regarded with suspicion. For some years, for example, it has been known that aniline (a product of coal tar, itself the principal by-product of gas manufacture, and the basis of a large part of the dye industry) has caused tumors in the bladder of workers in chemical dye factories and dyeing establishments (even persons living near dye plants have been affected!). Not one, but several products of the dye industry are known to have specific cancer-causing properties. The relationship of the bladder cancers to dye and drug manufacture has been known to certain European physicians for over 30 years. It is a curious fact that arsenic, which, too, has cancer-producing properties (known, indeed, for several centuries in connection with arsenic-mining operations), is also commonly associated with coal-tar products and is even a frequent contaminating substance in coal-tar dyes, including, at times, those used for food coloring purposes. In one city in Switzerland, bladder tumors were 33 times as frequent among dye workers as among the remaining male population. In the university hospital of that city more than 50% of bladder tumors had a dye or aniline origin. (Both bladder cancers and lung cancers have greatly increased in frequency in the last 30 or 40 years "coinciding with the constantly extended use of synthetic chemical products with which the majority of the population has come in constant and close contact during this period.")

Another point respecting dye poisoning as a cause of cancer, which makes it of especial interest in connection with Mr. Berger's paper, is that in about 50% of cases the tumors appeared after an exposure of 10 to 20 years, and first symptoms were observed after intervals varying from 8 to 41 years of exposure. This finding is important in suggesting the vital bearing in discussions of cancer of long-time effects occurring, it may be, only after infinitesimal daily accretions of irritation or toxic substances.

In any event, enough is known of the relation of coal products to cancer to throw very strong suspicion upon the possibility that coal and its smoke, soot, and factory products have a vital bearing upon the whole problem of the causation of cancer. No one can overestimate the importance of close and careful thinking and a willingness on the part of all researchers concerned with this question to keep their minds open; for, as Mr. Berger has suggested, the causative factor is likely to be in some commonplace of civilized living, the sort of thing, indeed, which the laboratory expert is likely to give the least weight to in his study, thinking, and writing. The editors of *Consumers' Digest* hope that this article may have the effect of reminding physicians and research workers in the cancer field of the importance of keeping this viewpoint—the civilized custom, practice, environment, or material that may be at the root of the trouble—steadily in mind.

# *PRICE REGULATION? MRS. CONSUMER WILL SAY "NO"*

*By*

A. L. NASSAU

THE smartest manufacturers feel it is a natural right for a retailer to sell any merchandise that he has paid for in any manner he chooses, so long as he pays his bills promptly. Many of the greatest manufacturers in this country claim that if any retailer chooses to sell any merchandise in great volume at a lesser profit than any of his smaller competitors do, that is his privilege under the constitution of the United States.

To stress my point a little further, a few years ago there was great agitation against chain stores, which completely fell by the wayside because the public still chose to shop where they could get best values. . . .

### Cannot Regulate Consumer

The ultimate consumer cannot be forced into patronizing any particular store, or purchasing any particular item in any other manner than of his own free will and accord.

Competition is still the life of trade and will always continue to be so. Finally, we retailers must believe our own oft-repeated phrase, "The customer is the real boss."

### Not Dependent on Brands

To my knowledge, the existence of any great retail organization in America does not depend on the selling of any particular branded line, but is rather a simple effort of offering honest merchandise, well selected, at a fair price every day in the week. . . .

It is my firm belief that the greatest manufacturers in this country do not wish to regulate retail selling prices

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on popular-priced commodities, because they know that it would not be very long until the largest and smartest retailers would be cooperating with many new manufacturers that would spring up on every side to produce merchandise, quite comparable in quality, made especially to undersell regulated price items. This would be only a natural performance, as more and more people are purchasing goods right now on intrinsic value, rather than buying highly advertised brands, because retailer and customer imagine much of the cost price is utilized for advertising expense and high marketing costs. . . .

There seems to be a fallacy somewhere along the line to all this hubbub about price regulation. Most of the talk relates to branded, highly advertised merchandise, and I do not believe anybody will contradict the fact that there is decidedly more unbranded merchandise being sold by all the great retail institutions of America than there is branded. In fact, the majority of smart retailers are going to feature their own brands in a more aggressive manner than ever before, and believe it or not, some of our greatest retailers have been doing a very smart, subtle job of building their own brands during the past number of years, because they have sensed the highly important fact that many customers do believe that they can obtain guaranteed quality for less money in many instances by buying other than the highly advertised brands. Furthermore, it is now conceded that the average customer of any good store respects the store's guarantee of quality above all else, whether it be branded merchandise or unbranded merchandise.

It is my personal opinion that price regulation is going to ruin a certain number of manufacturers in the next several years. It will be very easy for every retailer to obtain identical quality merchandise to sell for less than price-regulated, branded items. The Atlantic and Pacific Company is doing this very nicely already, and you can rest assured that the majority of great retail chains and great

retail stores will follow suit. . . .

### Customer Is Boss

As something to think about, slip back a few years. After prohibition, the brewers generally thought 10c a glass for beer would be just about perfect. Well it wasn't very long before an absence of customers convinced all brewers that 5c would be about right, if they wanted to operate their plants with a sufficient volume of business to keep their doors open. You see, the customer is the boss after all.

### Advertising Suppression!

In previous issues of *Consumers' Digest,* our readers' attention has been directed to the advertisements of R. H. Macy & Co. in which Macy's private brands have been compared in price with the nationally advertised brands whose prices are fixed by the "fair trade" laws.

The *Saturday Evening Post* and *Time* have now refused to carry these Macy advertisements which so pointedly and graphically set forth the consumer's concern in the matter of artificially pegging prices by the use of the police powers of the government. It will be clear to all that the pressure of price-fixing manufacturers and advertisers is responsible for the closing of the columns of these publications to the Macy ads.

Price fixing has no place in a system of free, competitive enterprise. It is doomed in any but a collectivistic society where bureaucracy, police coercion, suppression, coordination of the press, and the systematic gouging of consumers become dominant characteristics.

# *SAFETY RAZOR BLADES*

WITH the new "super thin" blades—which, as to those tested, Consumers' Research has found to be very satisfactory but rather high priced, the shaver's problems have been somewhat lessened; nevertheless men who are tired of nicking up their faces in an attempt to get a satisfactory shave should not fail to give careful consideration to a return to the old-fashioned straight razor, with which the blade cost per shave becomes practically negligible. If the maximum life is to be obtained from a straight or safety razor blade, the brushless type of shaving cream should not be used, as it may greatly increase the rate of corrosion of the edge, as compared with the lather type of soap or cream. If stropping is done immediately after use, excess moisture will be removed. This, except by dint of greatest care, cannot be removed by wiping the blade on a towel. It will conduce to long life of razor blades if they can be kept in a warm, dry room away from the damp and steam often characteristic of the bathroom. Stropping also helps remove the free acids, present in some shaving soaps and creams (particularly the brushless type), that may seriously attack the microscopically fine detail of the edge of the razor blade.

The following ratings are based, for the most part, on tests of several samples of each make of the blades purchased, whenever possible, from different sources, except in cases where there was only one source of supply.

The blade-testing instrument, newly developed by Consumers' Research, which tests both initial sharpness and durability in such a manner that difficulties in making accurate judgments of blade quality are reduced to a minimum, was used for these tests. Brands which passed the exacting testing-machine tests for *Recommended* blades were given actual shaving tests as well. With one exception,

From Consumers' Research *Bulletin*. September, 1937

blades found satisfactory by the machine were found satisfactory in the shaving tests.

### Recommended

**Gillette-Type Blades**

*Dublekeen* (General Blade Corp., 39 W. 23 St., N. Y. C.) 3 cents. This is the third year in which *Dublekeen* has been found to be a superior and uniform blade. It appears however that once in a while a quantity of these blades get into distribution which are below the usual standard.

**Blades Other Than Gillette Type**

*Schick Injector* (Magazine Repeating Razor Co., 230 Park Ave., N. Y. C.) Single edge, 4 cents.

*Sextoblade* (Edward Weck & Co., 206 B'way, N. Y. C.) Single edge, 10 cents.

*Durham Duplex* (Durham Duplex Razor Co., Jersey City, N. J.) 8 cents.

### Qualified Recommendation

**Gillette-Type Blades**

*Twenty Grand* (Twenty Grand Blade Co., Inc., Spencer, Ind.) 2 cents.

*Thin Flex* (General Blade Co., N. Y. C.) 5 cents. 50 blades $2 postpaid.

*Windsor Super Thin* (Windsor Mfg. Co., Inc., Orange, N. J.; distrib. Rogers Peet Co., N. Y. C., Boston) 5 cents.

*Gillette Blue* (Gillette Safety Razor Co., Boston) 5 cents.

**Blades Other Than Gillette Type**

*Gem Micromatic* Doubledge (Gem Safety Razor Corp., Brooklyn, N. Y.) 10 cents.

*Gem Micromatic* Singledge (Gem Safety Razor Corp.) 5 cents.

*Valet AntoStrop* (Gillette Safety Razor Co.) Single edge. 5 cents.

# ATTRACTING BIRDS TO WINTER FEEDING STATIONS

*Kindness To Birds Now Will Be Repaid Later When They Devour Insect Pests and Weed Seeds*

*By*

ELIZABETH ANNE PULLAR

DURING the cold months of winter the natural food supply of our northern birds becomes more and more scarce. When snow covers the ground the food shortage is at its height and many birds will perish from starvation. At this time man may prove himself a friend of hungry birds by providing food in feeding stations upon which they can depend. In this way not only will he be helping to conserve bird life but also he will be making a worth-while investment for himself. For many birds attracted to the yard in winter will stay on into summer when they will perform invaluable services to the gardener by feeding upon insect pests, such as ants, caterpillars, and slugs, and the seeds of bothersome weeds. Aside from the practical aspects, a feeding station is a most fascinating winter pastime for bird lovers. Nothing is more entertaining than to watch various kinds of birds come regularly to pick and choose from an assortment of bird delicacies—disdaining this and feasting on that.

### The Feeding Station

Bird feeding stations or shelters may be made as simple or as complicated as one desires. When planning a shelter, it is well to keep in mind that it is being made primarily for the birds' convenience rather than to delight the eye of man and thus useless ornaments and frills should be omitted from the structure.

A satisfactory feeding station may be formed from a wooden packing box. A grapefruit box with its two sections, for instance, may be attached firmly to a porch railing in such a position that the inside of the box may be seen

from within the house. Or, the box may be nailed to a pole placed near a window so that the maneuvers of the birds can be watched from indoors. Another simple method of supplying birds with food is to arrange a wide flat board or tray upon brackets just outside a window sill. If this kind of feeding station is used, care must be taken at first not to frighten the birds while watching them. Since only a pane of glass separates the birds from the "audience," it is only natural that sudden jerky movements of people so near should cause them to fly away. However, the birds will soon become accustomed to being closely watched and gradually learn that no harm is meant by motions of the people within.

Careful thought should be given to where the feeding station will be located to best advantage. It should be situated in a place convenient for birds to find and at the same time, if possible, be within view from the house. Shelter is essential for a successful bird refuge; rain will dampen and snow will cover any food put out in an exposed tray, making it necessary to renew the food supplies more frequently. In addition, wind can do much damage in blowing away light seeds and crumbs if the feeding station is too much exposed.

A porch is a desirable location for a feeding station since it is sheltered overhead and on at least one side. This is true of course only when there are no cats in the neighborhood. Cats and birds seldom get along together and so, if the former prowl about the community, food for the birds should be placed out of reach of their enemies. Perhaps a second story window opens onto the roof of a porch, in which case it would be convenient to pass food out and watch the birds as they eat. Grain scattered freely on such a roof will attract hungry sparrows. A notch in a nearby tree usually offers a place for a feeding station safe from cats, but this may be too inconvenient for renewing food supplies.

In arranging any feeding box, plan for a natural setting. Evergreen boughs such as pine or hemlock may be used to cover the box or placed at the sides of the tray. These will help to make the timid birds feel more at home and provide a perch on which to light before, perhaps, daring to snatch a morsel of food. Another way to make them comfortable is to scatter hayseed on the floor of the feeding station in which they may scratch around finding here and there a choice tidbit.

### The Bird Menu

Because birds digest their food so rapidly and because they expend so much energy in flight, they eat frequently. Among other foods, Nature provides them with insects, berries and seeds. In winter few insects are available since the ground is frozen hard. The small amount of insect life that hides away in the bark of trees is not sufficient in most cases to provide food for all the carnivorous birds. As winter progresses, the natural supply of berries and seeds diminishes and becomes buried under a covering of snow. When Nature fails in winter, man must do his best to satisfy the appetites of his feathered friends. Although the ability to reason has never been definitely established among birds, it is known that they have memories so that once they find a source of food upon which they can depend, they will remember and come day after day, seeking more food.

Various kinds of birds, much like diversified human beings, favor distinctly different types of food. The ideal feeding station will cater to all tastes with the result that many different kinds of birds will be seen as patrons. Among the seeds that please seed-eating birds are sunflower, melon, squash and pumpkin. Sunflower seeds are usually saved from the garden but may be purchased by the pound at grain stores. Melon, squash and pumpkin seeds may be saved at the time the vegetable is being prepared, dried and made crisp in the oven. If one is very considerate of the welfare of his birds, he will see to it that the seeds are

cracked before setting them out. They are thus easier to handle by the birds and, incidentally, go much further.

Cracked corn, millet, and grains of other kinds are eaten eagerly while chopped peanuts are a delicacy enjoyed by a large majority of the winter birds. Other popular foods are crumbs, crackers and even pie crust. Rolled oats are relished both when cooked and uncooked. In addition, birds seem to enjoy the meat from fresh cocoanuts either when ground or in large pieces at which they may peck. Some bird lovers will suspend from a wire in a nearby tree a cocoanut in which a small hole has been bored. The cocoanut is filled with choice seeds and since the size of the hole limits this restaurant to small birds, it is especially sought by chickadees, nuthatches, and downy woodpeckers.

Suet is particularly attractive to larger birds. A copious piece of suet nailed to a tree or fastened in porch vines near a feeding station will act as a lure to more timid birds, drawing them nearer to a larger supply of food. When attracted into the neighborhood by suet in trees, they soon learn to make use of food placed in feeding boxes. Many birds will break off a fairly large piece of suet, taking it to a nearby branch to enjoy in private, little by little.

Water is an item many times overlooked when providing food for birds. It must be remembered that birds enjoy a drink of water in winter as well as in summer and that very often none is available for them. Pools have frozen and snow is a poor substitute. A panful of water placed near the feeding box will be appreciated by the birds. In very cold weather this will freeze and so must be replaced more often with a fresh supply of water.

### What Birds to Look For

Cheeriest among our winter birds is the little chickadee, easily recognized by his black-capped head, short beak and the black patch on his throat. Being friendly to man, he will come to feed regularly at feeding stations and will

repay the donor of his food with the gay notes of his "chick-a-dee-dee." Even on the stormiest winter days, the chickadee will provide amusement as it darts from the feeding station to nearby trees singing as happily as can be as it flies among the snowflakes.

Keeping company with the chickadee many times at the feeding station will be seen the white breasted nuthatch. He will be identified by a long beak and the peculiar habit he has of going down a tree headfirst instead of the more usual way of climbing up. Also there may very likely be seen the little junco, commonly known as snowbird, a small but important customer at the feeding box.

Among the woodpeckers, the small downy woodpecker is commonly seen in the north in winter. It is black and white and the male has red spot back of its head. This coloring should not confuse the bird with the red-headed woodpecker, the whole head of which is covered with red feathers. The downy woodpecker is largely an insect feeder and finds its food concealed beneath the bark of trees. When food is scarce this bird will welcome large pieces of suet fastened in trees or in vines where it will be seen at regular intervals.

The English sparrow will probably be one of the first birds to come to the feeding station. This sparrow was brought from England in 1850 to Brooklyn, N. Y., for the purpose of destroying the inchworm pest. Rapidly it increased in number and spread generally throughout much of North America. This English sparrow has become a pest in the broadest sense of the word, not only to other birds but to man as well. It molests birds in their nests, bothers them as they feed, and does much damage in cluttering eaves and drainpipes. One commendable quality of the bird, however, is that it consumes large quantities of insects injurious to farm crops. The coldest winters do not daunt this bird and, although he is a troublesome pest, in a season when few other birds are around, we can overlook

his meddlesome ways and welcome him at the feeding box.

Among the larger birds that winter in the north is the arrogant blue jay. Outlined against white snow, its plumage is markedly blue emphasized by black and white. Blue jays are familiar figures at feeding stations, often coming in pairs. Their visits would be anticipated with more pleasure were it not for the fact that the blue jay scares away smaller birds. Remembering this fact and that jays are extremely fond of suet, it is wise to fasten suet to nearby trees in order to attract them there, thus leaving crumbs, seeds, and other food for the smaller birds. The jay may be termed a thief and an enemy to other birds, but no one can deny that a pair of large blue jays feeding at a tray close to the window is a breath-taking sight.

The flicker is another large bird with handsome plumage —brown with a red spot on its head and a white mark on its back. His light breast is conspicuously spotted with dark brown dots. The flicker is not an unfriendly bird but is more often seen feeding from suet on trees than particiating at food trays near the house.

The birds mentioned above are only those seen most commonly in the northern states in general. There are many other birds that spend the winter in the north. By attracting them with food, some of the more rare species may be seen, or birds which are naturally restricted to certain localities. But whether rare or not, all the little "snow birds" coming to eat from early morning until late afternoon make a fascinating and worth-while diversion for young and old alike.

**Merchandising Omnibus**

Lady: Officer, where can I buy a new dress, a shovel, a pound of coffee and a baby carriage?

Officer: Well, you might try that drug store on the corner.

—*The Canning Trade*

# THE CONSUMERS' RESPONSIBILITY

*By*

CHARLES S. WYAND

RECENTLY a German economist who had been intensively studying American economic conditions said to me, "I have heard a lot about consumers' rights in this country, but not a word about consumers' responsibilities. It seems to me unreasonable to expect the enterpriser to assume all of the burden of economic life and then to criticize him if he of necessity takes advantage of the consumer whose ignorance and indifference surely invite exploitation. A good economy can never evolve so long as one of the primary factors in that economy refuses to function consistently and effectively."

The criticism is undoubtedly justified. While it is true that some producers are deliberately vicious, the worst that can be said about the great majority of businessmen is that they are ignorant of the basic nature of their wares and indifferent to the effects such wares may have on the consumer. This is, to be sure, a serious indictment. But it must be remembered that each of these businessmen is seeking a living for himself and his family. Very few, if any of them, have any vicious or ill-intentioned purpose in exploiting their respective clienteles. But under our individualistic and highly competitive economic system they must look to themselves for income and, in pursuing their own interests, they frequently find it convenient to ignore all but their own personal economic considerations.

Such self-centered activity is not in itself an unmitigated evil. Complete *un*selfishness involves attitudes which are unnatural and from many angles undesirable. For when we ask others to be unselfish in their dealings with us, we are really asking them to sacrifice their own interests for *our* interests. All of which makes the exponent of an over-

weening degree of unselfishness a very selfish creature, in fact.

Our whole economic structure rests upon the fundamental assumption that men have brains and are willing to use them. The defenders of free and unrestrained competition argue that, if men do but exercise reasonable precaution in their economic dealings, unscrupulous merchants are soon driven into bankruptcy and those best serving the public interest will alone survive. The argument is sound *if* the consumer functions reasonably. But as J. W. Nisbet very aptly says, "Too often the consumer is aware of no responsibility. Far from making an obstinate attempt to secure the maximum good for his expenditures, he frequently appears to be devoid of the requisite discretion and to be hide-bound by custom and tradition. And yet he growls with indignation when the luxury trades, the makers of motor cars, fur coats, liquor, tobacco, patent medicine and popular novels, thrive upon his credulity and ignorance."

It is a clearly established fact that merchants are willing to supply any product or service the customer asks for. This fact does help to explain the presence of so many wasteful and useless or harmful products on our markets today. The public in a certain sense is demanding rubbish—and it is getting rubbish. While it is true that producers have many times used every psychological device known to man to make the consumer desire such junk, the responsibility for its existence yet lies to a degree on the consumers' shoulders. For, if buyers were intelligent, well informed, and critical and exercised reasonable judgment in reading advertisements and in listening to sales appeals, the fatuity of most products would be apparent. But many of us are uninformed, or uninterested in the qualities of goods, and most of us will not bother to be reasonable. Rather we prefer to humor any caprice or illusion the salesman will create for us, to serve his own ends. Like children we run from one product to another, heedless of cost, of efficiency, and

of need. Where we lack the necessary funds to buy the bauble of the moment, we throw discretion to the winds and buy recklessly on the installment or "easy payment" plan. You cannot blame the businessman for that. The reckless childishness of the buyer is primarily at fault. And the cure lies in the development of a sense of responsibility by the consuming public for its own interests.

It is ridiculous at the present time for the well-informed, critical consumer to expect the merchant to jeopardize his income by stocking nothing but honest merchandise at honest prices. The chances are too great that, if honest wares were offered to people generally, they would reject them and go elsewhere for the stuff they are consuming now. The consumer cooperatives had precisely that experience. Some of them have tried to give the consumer something for his money beside "eye appeal" and "prestige values." But the cooperative buyer demanded the traditional array of "goods." And the cooperatives, preferring survival to the needed drastic reeducation of consumers, sacrificed their basic ideals and stocked their shelves with economically wasteful, physically harmful, but extensively desired wares in the name of "service."

Since most consumers refuse to be rational in their expenditures, one might well ask, "What are the major factors responsible for this state of affairs? If reason doesn't dictate our choice of goods, what does?" The answer is complex and would involve analysis of a great variety of forces. But of all of these incentives to unreasonable consumption, none is more important than the well-nigh universal American desire to be respectable—"to keep up with the Joneses." In the name of respectability most of us will go to great lengths. Advertising's much-ridiculed pictures of elegant men and women in evening clothes, clustered about any household article from a refrigerator to a can of spaghetti or a linoleum rug, spring directly from this desire of the American public to ape its "betters." We are, most

of us, socially and economically ambitious. And we rate our success primarily in economic terms. As a result material *things* have become an indicator of what we are. Through our possessions we try to establish our economic (and therefore social) position in the community.

It thus becomes easy to sell us, on the installment plan, a vast array of products we really cannot afford but feel we must have to maintain "face" or caste. It becomes equally easy to interest us in anything from cosmetics to furniture simply by buying and publishing the testimonials of the social and economic elite who are alleged to be users of the advertised product. In the name of respectability we trade in a perfectly good year-old car for the newest model, even though the "old" car is not entirely paid for —and may, as a means of transportation, be actually far better than the newer model. We give up an efficient six-cylinder car for one with eight cylinders and dream of the day we can double this form of conspicuous waste by buying twelve cylinders at a time. To own a fur coat, the stenographer cheats her stomach and the housewife sacrifices dental care for the children. And when the coat is bought, limitations of income usually mean that the "fur" is so cheap and the coat so poorly made that it falls apart in a season or two. Style trends in the garment industry and the shoddiness of most ready-made clothes are all possible and increasingly damaging to consumers' interests only because most of us dare not ignore the vogues, which change with bewildering speed, and are changed by enterprisers as fast as practicable, because it pays to have them change.

Even where the cheat is unmistakably apparent, respectability too often prevents protection of the consumers' interests. I remember some months ago watching a butcher weigh some meat for a friend of mine. In determining the weight of the purchase, this butcher was obviously holding the scales with his finger to increase the charge for the meat.

On warning my friend I was astounded to hear her say, "Yes I know he [the butcher] cheats, but one just doesn't quarrel with tradespeople over a few pennies." When I told her that the "few pennies" really meant about ten per cent of her outlay for meat, she shrugged her shoulders and refused to mention the matter to the butcher because "it just isn't done." Although most butchers are a little more adroit in such matters than was the one just mentioned, it is extremely doubtful whether more than five per cent of American housewives would have been emboldened to complain under the circumstances. Fear of making a scene, fear of the opinion of others, a reverence for decorum, and an overwhelming desire for respectability, all combine to make too many of us hopeless and helpless preys to most forms of commercial malpractice.

There was a time when the complexity of modern products made it *impossible* for the average man to choose goods on the basis of sound technical judgment. But with the development of Consumers' Research a reliable source of technical information has for the first time in human history become available at a cost the average man can afford to pay. Actually about all the consumer needs now in the way of native equipment, beyond the services of Consumers' Research for reasonably efficient buying of most of the things he uses, is a little common sense and a reasonable degree of skepticism and insistence upon being shown. That is to say—enough judgment to stay within his income and to expend that income in the purchase of goods selected on the basis of the buyer's needs and aspirations rather than at the suggestion of salesmen and advertising agents. If the consumer wants a Utopia, he must build it himself, in his own family and community. And the first step in this process of reconstruction is the development of personal habits and practices in purchase and use of goods that will fit the buyer for life in his ideal world—when and if it does materialize.

## WHEN TO CHANGE YOUR OIL

VERY few people realize how many millions of dollars have been wasted by changing oil every 1,000 miles. Few know that used crankcase oil is, in many respects, as good as new crankcase oil and that some used crankcase oil is better than some new crankcase oil. Motor oil manufacturers are vague about the way in which oil is supposed to deteriorate. Under many practical conditions it does not deteriorate at all and may be better after a period of use than it was when new.

When to change oil is, for the private user, a bewildering problem. One large operator, noting that the cost of lubricating oil and grease amounts to three per cent of his total expense, not including drivers' salaries, says, "Obviously, no operator will gamble very far with attempted reduction in a three per cent item which may have a very direct effect on a twenty-two per cent item" (the latter being the cost of repairs). The same operator considers oil unfit for further service when it contains one per cent of sludge and dirt together. Obviously, no private owner can afford the expense of having tests made to determine whether and how often his oil should be changed, but the comment regarding relative costs of lubricants and repairs, which is for a fleet under excellent technical supervision, is highly significant to the private owner, whose oil costs are relatively a smaller part of his total automobile bill and whose repair costs are relatively larger. The most significant report, however, to come to the attention of Consumers' Research is that of a large utility concern, which, on the basis of tests made some years ago, adopted a no-oil-change policy for their entire fleet. The total consumption of purchased oil for the year following the adoption of this no-oil-change policy was about half that of the previous year; yet maintenance costs of the cars steadily declined in the period. It

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should be noted, however, that other factors besides non-changing of oil contributed to this decrease. This company now examines crankcase oil on their trucks only at 10,000 miles, and on passenger cars, and light delivery cars, at 15,000 miles. Another large fleet operator of buses and automobiles changes oil according to analytical reports, and their equipment has been found to average 6,000 miles per change.

In service, oil becomes contaminated with a number of foreign materials, including dust, moisture, and gasoline. Crankcase oil also undergoes oxidation, and the material so formed undergoes further chemical changes resulting in formation of "sludge." Of these various changes, probably only the addition of water, and the oxidation materially affect the service performance of the oil. The Research and Standardization Committee of the Institution of Automobile Engineers (England) has shown that most engine corrosion can be attributed to the presence of water in the oil. Water tends to accumulate in crankcase oil by condensation on cold engine parts. The Committee's work showed that engine wear was fifteen times as great when the cylinder wall temperature was 104 degrees Fahrenheit as when it was 194 degrees Fahrenheit. This finding emphasizes the importance of having a thermostat set at a suitable high temperature (higher than customary) in *good operating condition* on your car. (In the same tests, a car using a thermostat showed one-fifth as much wear as one not so equipped.)

Oxidation of oil results in formation of "sludge," which tends to clog screens, passages, and filters and is believed to be chiefly responsible for stuck piston rings. If an engine with stuck rings is driven at high speed, overheating of the pistons may cause piston seizure and necessitate complete rebuilding of the engine.

The gist of the whole matter of when to change your oil may be stated as follows:

**In modern cars, equipped with air cleaners, thermostats, ventilated crankcases, and oil filters,[1] changing oil at periods of less than 2,000 miles is an unnecessary expense.**

Coarse material in the crankcase will remain there whether the oil is changed or not, and the attempt to wash out such material with "slushing oil," commonly recommended by garage and filling-station operators, is generally useless and perhaps harmful, because of the resulting dilution of the oil put in the crankcase after washing. Some automotive engineers feel safe in not changing oil at all, after the changes made when the engine is new, but they are of course careful to replenish the oil to the correct level at frequent intervals. One technical adviser states that if the crankcase is ventilated and the oil filter operates efficiently and is cleaned regularly, which may imply a higher degree of care than the average consumer or local serviceman is willing to give his engine as well as a more certain knowledge of the efficiency of the oil-cleaning device than he may customarily have, changing oil twice a year (i.e., winter and summer) is sufficient. In general, a longer period can be allowed between changes if the car uses much oil than if it uses but little.

But note carefully that, in using oil for the longer periods, *the proper level must be maintained* by replacing oil lost through being burned up in the explosion chamber, or leakage. Also, *with a new car* the oil should be replaced after the first 500 miles. If the oil is not changed frequently, one precaution should be observed: during the winter, dilution increases to a considerable degree, and, consequently, on the first warm day or days in the spring, the car should be driven carefully so as not to overheat the engine.

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[1] Oil filters are often provided to remove foreign matter. These are not always satisfactory and some are so inefficient that it is evident that they must be added to the car as talking points rather than as true oil-cleaning devices. Also, the amount of good an oil cleaner will do depends on how often the appliance is cleaned by the operator. Consumers' Research cannot tell you whether your oil cleaner does a good job. That depends not only upon the design of the cleaner but upon its condition and servicing. There is no one whose services the consumer can employ locally whose opinion on oil cleaner performance can be taken as reliable. The same points apply with equal or greater force to air cleaners.

Otherwise burned-out bearings may result from the thinning out of the oil which would have been harmless on a cold day but on a warm day will be such as to involve some risk of under-lubrication, before the condition of the oil in the crankcase has had time to come back to normal viscosity or stickiness through the boiling off of the lighter and more volatile portions that will have collected in the crankcase during colder weather. Indeed it is wise to observe, to a certain extent, this precaution of careful driving on the first warm days even in a car in which the oil is regularly changed; in a car in which the oil is changed very infrequently or perhaps once a year, the change to new oil should take place just before the beginning of the first warm weather of spring. *Virginia Polytechnic Institute Bulletin 28* states that, in their section of the country, "It is questionable whether it is ever necessary to change oil because of excessive dilution. In the northern sections of the country if a car is used during extremely cold weather for only short trips when frequent starts and stops are made and the choke used freely, and, especially if the motor is in poor mechanical condition, one may be justified in changing oil because of excessive dilution. (It should be remembered, however, that the Society of Automotive Engineers recommends 10-W oil plus fifteen per cent kerosene for temperatures lower than 15 degrees Fahrenheit below zero.)" Their tests also indicated that no appreciable increase in the rate of wear was caused by the use of oil for apparent mileages as high as 4,000 although they noted that their tests were not extensive enough to warrant final conclusions.

The advice given applies generally to localities which have more or less average weather. In localities where extreme cold prevails, special precautions must be taken because of moisture condensation and the resultant risk of freezing and blocking of the oil lines. Condensed moisture may also emulsify the oil, completely changing its lubricat-

ing and other physical properties. Usually this condensed moisture, or water, can be eliminated from the crankcase by frequently loosening the crankcase plug and allowing the water (which, being heavier than oil, lies at the bottom of the crankcase) to drain out. The use of an oil drain plug such as sold by Montgomery Ward & Company, catalog number 61 — 7386, installed in the crankcase in place of the usual crankcase plug, greatly facilitates this operation without the necessity of getting under the car. It is important that removal of the water in the crankcase be done when the engine is warm, but it should not be done immediately after the engine is stopped as the water at that time may be in a finely divided state and mixed with the oil. The consumer, according to one petroleum company engineer-adviser, should be particularly warned against the service-station operator's practice of touching the oil on the gauge stick and saying, "It looks (or feels) thin, and you should have your crankcase refilled"; or, on the other hand, saying, "Your oil is awful dirty; you need fresh oil." On either of these observations the filling-station attendant is little better qualified to give the consumer advice than is any average person and he has the additional disadvantage, from the consumer's point of view, of having a strong personal interest in persuading you that new oil is required, whether it is in fact, or not.

**Coalition Against Consumers**

From Milwaukee comes the report that "the Coal and Ice Drivers' union is helping manufacturers maintain a retail price of $10 a ton for ice this summer as against $8 last summer." Wage increases are credited with the higher prices.

It is further reported that several Milwaukee barbers who reduced their prices have had their windows broken.

# TESTS FOR QUALITY OF HONEY

HONEY may be adulterated by addition of other saccharine substances such as glucose.

*Glucose.* Mix 5 cc each of honey and water in a test tube. Then add 5 cc of ether ($(C_2H_5)_2O$) [CAUTION! Inflammable!], shake gently and allow to stand until the upper (ether) layer is clear. Pour off about 2 cc of the ether solution into a test tube and add 1 or 2 drops of a 1% solution of resorcinol ($C_6H_6O_2$). Shake and note the color immediately; a cherry-red color appearing at once indicates added invert sugar (glucose). Yellow to salmon tints mean nothing.

The results may be confirmed by placing 5 cc of honey in a test tube and adding 5 cc of water as above and then adding either iodine-potassium iodide test solution or tincture of iodine, drop by drop, until a violet or blue color is produced.

> *Iodine-Potassium Iodide Test Solution:* Dissolve 0.5 gram of iodine (I) and 1.5 potassium iodide (KI) in 25 cc of water.

Compare this color with that of honey known to be pure to which the same amount of iodine was added. (This test is due to the residual erythro-dextrin in commercial glucose.)

Another test is to treat 5 cc of honey with 5 cc of water and sufficient methyl alcohol ($CH_3OH$) [CAUTION! Poison!] to render it turbid. If glucose or dextrin is present, a heavy gummy precipitate will form; if the honey is pure, it will be milky.

*Gelatin.* To 3 cc of honey, add 5 cc of water and 2 cc of a 5% solution of tannic acid. A precipitate indicates gelatin.

*Lead.* Honey made by bees working in orchards which have been sprayed may contain a dangerous amount of lead. To test for lead, dissolve the honey in warm water and

From the *Consumers' Test Manual*
issued by Consumers' Research

place 2 cc of the solution in a test tube and add 1 cc of ammonia-potassium-cyanide reagent [CAUTION! Poison!] and 2 cc of dithizone test solution.

*Ammonia-Potassium-Cyanide Reagent:* Dissolve 1 gram of potassium cyanide (KCN) [*CAUTION!* Extremely Poisonous! Use exceptional care.] and 1 gram of citric acid ($H_3C_6H_5O_7$) in 50 cc of concentrated ammonium hydroxide ($NH_4OH$); dilute the mixture to 100 cc with distilled water. This solution should be stored in a tightly stoppered *Pyrex* container.

*Diphenylthiocarbazone (Dithizone) Test Solution:* Dissolve 0.05 gram of diphenylthiocarbazone ($C_6H_5.N:N.CS.NH.NH.C_6H_5$) or ($C_{13}H_{12}N_4S$) in 1000 cc U.S.P. chloroform. Keep tightly stoppered. The diphenylthiocarbazone can be obtained from the Eastman Kodak Co., or the solution may be obtained from the Buffalo Chemical Supply Co., Box 240, Buffalo, N. Y. In ordering, specify that it is for lead determinations.

Shake for about 30 seconds and allow to stand until it separates into two layers. A red color in the lower layer indicates lead.

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**From An Old Book on Advertising**

A published testimonial: "Notwithstanding I have been lately married, I found it impossible to sleep on the same pillow with my husband without a quart bottle of your Elixir."

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A patent medicine offered for sale: "An absolute cure for rheumatism. The tears of a widow who has buried her third husband."

# GAS RANGES

ANY gas range safe to buy will carry the official insignia of the American Gas Association Testing Laboratory, a symbol giving some assurance of compliance with very important basic requirements of safe design. It does not, however it may be represented by the dealer, assure high efficiency or economy in use for the stove.

While only the expert who is familiar with local conditions of the gas supply should attempt to make adjustments of a gas burner, the housekeeper, herself, should be aware of the general characteristics of a properly functioning flame. When a different type of flame occurs, the danger of the very serious carbon monoxide poisoning is a very real one, not only in the kitchen but even perhaps in a part of the house some distance away. Valuable details on this point are given in The National Bureau of Standards *Circulars 394—Design of Gas Burners for Domestic Use* and *397—Safety for the Household* (10 cents and 15 cents respectively from Superintendent of Documents, Washington, D. C.)

The housewife should never permit the flame to lick up around the cooking utensil, as this is likely to cause increased production of carbon monoxide, particularly if the vessel is cold. Much gas can be saved if, after boiling starts, the flame is lowered so as just to keep boiling active. Except for certain uses, as, for example, boiling down the material in the pan, e.g., jelly, there is no advantage in boiling at any higher than the minimum noticeable rate.

For igniting burners not served by a pilot light, use matches or the type of lighter in which a wheel, rotated by a spring, projects an intense, narrow stream of sparks. Other types of lighters, such as those which become red hot when held in the gas, are too slow to be safe. Automatic

lighting arrangements in which there is several seconds' delay after the burner is turned on, before ignition, are a definite hazard to the health of the gas stove user. Pilot lights may consume as much as 25 cents' worth of gas per month. Take care that each port of the burner is lit—a caution especially important with oven burners where a large amount of gas may escape without being ignited.

Solid-top ranges cook more slowly because the heating capacity of the burners has to be cut nearly in half to prevent formation of carbon monoxide. Contrary to selling talk, tests show that the solid-top range is never so efficient as a properly adjusted open- or grid-top range. A closed or solid-top range presents a greater danger of carbon monoxide poisoning than a grid-top range; an attachable solid top offered as an accessory for a gas range not specifically designed for its use should not be considered.

Well-insulated ovens are desirable for saving fuel and making kitchens more comfortable. In considering a gas range purchase it is well for one to remember that the industry's product is in general of poor or mediocre quality and subject to many and serious criticisms as to design, finish, and workmanship.

The following "table-top" (not solid-top) style ranges, asserted to be approved by A. G. A. Testing Laboratory, each having four surface burners, an oven, and a broiling compartment, were subjected to a general engineering examination and to certain technical and practical tests. The burner efficiencies given in the listings are the average of the efficiencies measured from both cold and hot starts. Of six gas ranges tested, we recommend the three which follow.

RECOMMENDED

*Tappan,* No. W-9 (The Tappan Stove Co., Mansfield, Ohio) $79.50. Burner efficiency forty-seven per cent. Heat loss from oven much less than average. Oven about six inches lower than in some of the other ranges tested;

may be a fault to some users. Oven door hinged on side in model tested; constituted serious disadvantage and burn hazard. The manufacture of this model has recently been discontinued, but it will be available in retail stores for some time.

QUALIFIED RECOMMENDATION

*Prosperity,* Cat. No. 22—6123 (Distrib. Sears, Roebuck & Co.) $39.95 plus freight. Burner efficiency forty per-cent. Heat loss from oven much less than average. Oven thermostat inaccurate. No longer listed in catalog, but may be available at retail stores.

*Magic Chef,* No. 4201-0 (American Stove Co., St. Louis) $72.75. Burner efficiency forty-one per cent. Heat loss from oven about average.

**Trichinosis and Garbage**

According to investigations of M. C. Hall, writing in *Public Health Reports,* "Garbage-fed swine have trichinae between three and five times as frequently as do grain-fed swine and hence are specially important as sources of human trichinosis."

The greater frequency of trichinae in garbage-fed swine is attributed to the fact that uncooked or inadequately cooked pork scraps find their way into the garbage of butcher shops, hotels, restaurants, and homes. These pork scraps often contain live trichinae.

The prevalence of trichinosis in the population of the United States is alarming, as stated in a previous issue of *Consumers' Digest.* In addition to the important precaution of making certain that pork is always well cooked before eaten, we may now add the precaution of not feeding uncooked pork scraps to swine, via the garbage can.

# *PRICE FIXING WILL FAIL*

*By*

F. J. Schlink

OUR views on resale price maintenance have been often expressed. We oppose the trend toward resale price maintenance in all forms, local and national, because it eliminates competition, tends toward monopoly, and, with only occasional exceptions, works to the consumer's economic disadvantage whenever and wherever it is effective. Moreover, we doubt whether resale price maintenance will turn out to be the panacea which some business groups hope it will. There are some who can remember what an era of joy and profit-making accomplishment was to be ushered in by the NRA and the State NRA's, with their guarantees of punishment for those who violated national and local price controls. There are some, also, who remember what a headache NRA price controls turned out to be before the Supreme Court terminated formally what was going rapidly to an economic termination of futility and obfuscation by its own fatal momentum.

In our opinion, the part of wisdom is being shown by a firm such as Macy's, who, to a degree, regard themselves as purchasing agents for the consumer rather than sales outlets for manufacturers. There is no reason except intellectual laziness or unwillingness to bestir themselves, which should make merchants continue to leave initiative in *distribution* with manufacturers or national merchandising enterprises, including advertising agencies. Distribution is the job of the retailer, and if he boggles it he will find that others will step in to do his work—and take the profits which he thought were his by right.

The proper province of the retailer in distribution includes determination of what he shall charge for goods and how much of his operations shall be the stocking and supplying of commodities and how much the giving of services,

and surrounding the goods with an aura of prestige or exclusiveness. The merchant who chooses to leave out the latter appendages to any degree which suits him or serves his interests should also be left free to choose a lower price at which to sell his tooth paste or hand lotion.

If enough important concerns follow Macy's lead, consumers will have no difficulty in purchasing private brand merchandise, and experience has shown that there will be little difficulty in their adjusting themselves to that basis of buying. Manufacturers who do not believe in resale price maintenance and who hold that some rights and functions in distribution belong to the merchant, can and will cooperate with able merchants to bring out private brands whose qualities, and the claims made for them, comply with standards of grade and integrity, capable of differentiating their products, in the consumer's eyes, from nationally advertised brands. The latter all too often have found it convenient to ignore quality and quality control, except in so far as it could be made a matter of adjectives and adverbs in advertising.

It is a pity that the lessons of the AAA-NRA era, when everybody was going to get rich by paying more for everything he bought and by paying the same price for any given article no matter where purchased, were so poorly learned. Business men who would like to see this country continue to operate on something approximating a capitalistic system of enterprise will do well to flee as though it were the devil himself, all systems which propose to provide a short cut to merchandising prosperity by way of price standardization. Those who think that capitalism is out and that governmentally-controlled price systems are to be preferred, as in the dictatorship countries—Germany, Russia, and Italy—should by all means lend the weight of their influence toward the extension of such measures as the Tydings-Miller Bill and the numerous state resale price maintenance enactments.

However, those who think they would like Fascist economic controls as a basis for the guarantee of profits might do well to consider what have become of merchandising profits—net—in Germany and Russia, where, as is tending to be the case in this country, the gains, if any, that are made, go to support an army of governmental investigators, field representatives, auditors, crop controllers, experts on not planting potatoes, financial "experts" supervising corporate operations, and the like.

---

**A High Pressure Trick**

A trick for getting people to buy with a minimum of effort on the part of the salesman, and without any consideration whatever for their needs or desires, will be found in an article by the managing director of a lighting equipment association who recalls this story as a motto for successful salesmen to follow:

"One day when I was in the store I asked Jim what was the secret of successful selling in the wallpaper business. Without a moment's hesitation, he replied, 'Never show a customer more than three patterns, and be sure two of them are rotten.'" The director goes on to say, "The way to sell fixtures is to first make up your mind as to what the customer should have and then explain to her the reasons that led you to select a certain fixture."

There is much talk these days of the need for business to reëstablish itself in the people's good graces. An important and effective step in this direction might well be the elimination of the kind of high-pressure sales method just described.

M. C. Phillips in an article entitled "More Thinkers Needed —Fewer Salesmen."

# A RESTAURANT MAN TALKS TURKEY

By Malcolm Parks

THANKSGIVING TIME (or Christmas time), is turkey time. With present high prices it often entails a sacrifice on the part of many households to have this typically American feast. In many cases, sincere and hopeful housewives go blithely to market, only to find that on the great day the bird which was bought with such high expectations has failed miserably. This is usually not the fault of the farmer, nor does it show lack of cooking skill.

What happens is that the packing houses become overstocked with frozen birds and oftentimes these are dumped on butchers throughout the nation. It took me a long fifteen years in the restaurant business to learn how to select fancy grade turkeys, what to look for in the butcher shop, the characteristics of thawed-out birds and a great many other items which may perhaps interest most frantic budget-balancers at this season of added expense and, for the housewife, added work and worry.

There are further details which should be of interest. There is, for instance, the relative weights of the skin on young and old birds, and when it is realized that sometimes the skin, even on a fancy young bird, will weigh nearly as much as the total weight of the dark meat on a given turkey, it would appear that perhaps restaurant knowledge may cooperate with the skill of the cook in securing a dinner that will be a success, both gastronomically and financially.

I have often watched women buying turkeys in the butcher shops or markets. They give a pinch here, a poke there; usually because mother did that before them; pick over three or four, then take the one which appeals to some obscure sense of feminine aesthetics. This is not a gratuitous criticism, only personal observation. But turkey can-

not be purchased that way. Before entering the shop it is usually of great help to consult the papers, or any consumer bulletins that appear and study the prices posted for the different grades.

In my restaurant we use fancy grades, ordinary families will find that B grades may suffice. Sometimes the price differential is negligible, in that case call for and be sure to receive fancy grade or U. S. Prime. The fancy grade is known by the fact that packing standards specify that the crop must be completely empty. Grade B allowances run to about 4 ounces of food per crop. They must have evidences of being dry picked. The bird must be young and well-fleshed. The meat on a young bird will be soft, old flesh tends to bruise easily. The lighter weights are usually safer to buy, and more economical for reasons which will appear.

The entire carcass should be covered with a good layer of fat, and must be well bled. The breast should be practically free of pin feathers and free of any defects such as skin discolorations or bruises. The breast bone may be dented but not crooked, as this interferes with cooking and carving. No deformities should be allowed, and a bird with broken wing tips or broken legs selling as fancy or B grade should be refused. If there is a doubt of the grade it will be well to see that the skin is not dark, blistered or dry from being frozen.

There are certain other things which must be looked for when buying a turkey. Young hens will have a very soft breast and a flexible breast bone. Young toms will be much the same, but evidences of deterioration must be carefully looked for. Sticky, or slimy skin, particularly under the wings or thighs denotes that the bird is not fit for most kitchens. Gas in the crop, or a slightly putrid odor is a further evidence that the bird is substandard. A green discoloration, or flesh tears on the hips or neck or a tough and

scaly skin denote that the bird is old and of very poor quality.

We will assume that you have now bought your bird and are waiting for the butcher to draw, or trim it. This is an important operation which is of great economic interest to all of us. How often have women exclaimed that the turkey delivered was not the turkey they bought because it seemed so much smaller. The reason for this is that drawing a turkey involves a loss which many do not take into consideration. For this reason, and one other, the smaller birds, ranging from 14 to 16 pounds have been found the best buy. The heads and feet are usually smaller in proportion, the amount of fat on the entrails and the weight of the entrails themselves are so proportionately smaller than birds weighing even 20 pounds that it represents an economic saving.

The first loss in drawing a turkey is the feet. Next comes the head and other parts. For a quick analysis here is a small chart which we use in my restaurant kitchens. It may vary with specific birds, but analysis has shown that it is close enough to prove a potent reminder that turkey can be a most expensive dish if all parts of the cooking operations are not rigidly controlled.

**Drawing Loss**

| | |
|---|---|
| Bought turkey at 15 lbs. 8½ ounces. | |
| Wing tips loss | 2½ oz. |
| Feet loss | 9¼ oz. |
| Head loss | 10 oz. |
| Fat on entrails loss | 4¼ oz. |
| Entrails loss | 1 lb. 4¾ oz. |
| Total loss | 2 lbs. 14¾ oz. |

In cooking the turkey we have found that a time of not more than 25 minutes per pound gives the best results. Longer cooking results in greater shrinkage, which is a factor, and also results in a tough and unpalatable bird. When we finish cooking we find that the turkey runs

roughly about 10 to 11 pounds. On this particular turkey which we have used for experiment, the cooked weight was 10 lbs. 12¾ oz. This gave us a net shrinkage loss of over two lbs. But this is not our only loss. We must still figure on giblets and bones. While giblets make nice gravy, they cannot be classed as really usable yield on a turkey. Our cooking chart follows:

**Cooking Loss Chart**

| | |
|---|---|
| Shrinkage loss | 2 lbs. 2 oz. |
| Weight of bones loss | 2 lbs. 14 oz. |
| Total, not counting giblets | 5 lbs. |

Thus our turkey now weighs around six pounds or less than half the weight of the purchased bird. For this reason it is easily seen that unless a person is sure that the bird he buys is top quality and worth the money paid, then whatever money is spent can be considered, to a degree, as wasted.

In our restaurant we know that turkeys are expensive and so we utilize every bit of usable yield. We render down the fat on the entrails and use it for frying or to add flavor to turkey pies. If skin is left over we use part of it for chicken salad or turkey salad, and we utilize the rest in croquettes and patties.

In most families the bones of the carcass are wasted. These bones, if broken up fine and put in cold water with bits of meat will make a delicious and nourishing soup. Our formula follows:

**Turkey Soup**

Take one gallon of cold water, add bits of broken turkey bones and scraps of meat, add salt, pepper, bay leaf, celery stalks and bring to quick boil. Simmer for two hours. This can be used either for a clear soup or as stock for other soups such as split pea, etc.

Because the carcass of a young bird is not fully matured, the weight of the bones will be less than in an older and heavier bird.

Well, that about covers our practice with regard to turkeys. Reading this will not make one turkey dinner a bit better unless the shopper demands that these standards be met. Only by concerted action, action which will let packers and retailers know that the consumer will pay fancy prices only for fancy quality, will the standards of all fowl be raised. When this occurs rigid scrutiny will be less necessary, failures in cooking will be fewer and the festive season will be merry indeed.

**Translation of an Old Chinese Advertisement**

"Very good ink, very fine, very old shop. Grandfather, father, and myself make this ink fine and hard, picked out very fine and black, before and now. Sell very good ink, prime cost is very dear. This ink is heavy, so is gold; no one can make like it. The others that make ink, make it for money and to cheat, I only make it good for a name. Plenty of gentlemen know my ink, my family never cheat. Always a good name, I make ink for the emperor and all the mandarins round. All gentlemen must come to my shop and know my name."

# VITAMIN D AND LEAD POISONING

AT the meeting of the American Chemical Society held in Rochester, N. Y., in September, a paper of outstanding importance on the subject of the effects of vitamin D upon lead poisoning was presented by Drs. Albert E. Sobel, Oscar Gawron, and Benjamin Kramer of the Jewish Hospital of Brooklyn.

The Brooklyn doctors found, in experiments on rats, that vitamin D (favorite theme of many modern food processors) aggravates the deadly effects of lead poisoning. "A large series of young rats were kept on a lead containing diet. Half of these animals received vitamin D additions to the food. At the end of the experimental period the concentration of lead in the blood and the amount deposited in the bones was determined. A definite influence of the antirachitic vitamin was observed. Both the lead concentration in the blood and the amount of lead present in the bones was about twice as high in the vitamin fed animals as in those not receiving this addition. These findings help to explain the previously observed severity of lead poisoning under the influence of vitamin D."

For years Consumers' Research has called attention to scientific warnings against the vitamin D ballyhoo, especially in the indiscriminate use of cod liver oil, just as it has warned against the lead poisoning which grows more and more menacing under the conditions of "civilized" living. The findings of Drs. Sobel, Gawron, and Kramer underline these warnings in a way hitherto unsuspected.

It is a matter of sufficient gravity that the population ingests large quantities of the deadly metal, lead. It is an occasion for alarm to learn that the vast quantities of vitamin D added to the food supply for no other than advertising purposes actually promote the deposit of lead in the bones and double the hazard of lead poisoning.

# GULLIBLE'S TRAVELS

October 24, 1937.

Snocum,
Coconut Grove,
Pacificania.

Dear Snocum:

My sojourn in the United States will soon have lasted a year. Shortly after I first arrived in this country, the Americans celebrated their greatest festival, Christmas. At that time I entertained an entirely erroneous idea of the nature of this important holiday. I thought it was a religious festival, but I should have known better for Americans as a whole do not get excited over religious matters; and, you may take my word for it, there was great and universal excitement among the people throughout the Christmas season.

Among the many things which I have learned during my stay here, I have discovered that Christmas is, first and foremost, the Festival of the Package. It is a time when great national energies are expended in wrapping and unwrapping merchandise. This may appear silly to you, as it does to Impervious, but gradually it has dawned upon me that the PACKAGE holds the key to the mystery of the phenomenal success of American merchandising. At Christmas time, almost any ordinary or even worthless article acquires sentimental significance as well as enhanced

commercial value with a few cents worth of ribbon, colored paper, and Cellophane. While the supreme homage is paid to the PACKAGE at Christmas time, I must tell you that honor is bestowed upon it the year around.

You well know that one of the chief differences between the people of highly civilized lands and those of backward countries is to be found in the matter of clothes. Well, I have discovered to my surprise that an even more important difference is to be found in the clothes of commodities, i.e., the containers and the wrappers in which goods are offered for sale. In highly civilized countries like America, the makers and distributors of goods would no more think of offering their wares to the public in a nude condition than they would think of allowing their children to go about without clothes. Our children in Coconut Grove do, indeed, disport themselves upon the beach and upon our streets without apparel, and our merchants, likewise, display their wares without wrappers or containers. But this is all another piece of evidence of our backwardness.

Just as the American people publish and buy and read numerous magazines which are devoted to the changing styles in the clothes of the people, so they publish many other magazines which are devoted exclusively to packages and containers, the clothes of commodities. There are changing fashions in packages and con-

tainers just as there are in the clothes that the people wear. The great festival of fashion for people is called Easter, and this is the time when the women especially appear in public to parade their new clothes. So Christmas is the festival of new frocks for wares.

The greatest poet of the English speaking world said that "the apparel oft proclaims the man." So the merchants of America believe that goods should have their "shelf expression." In the old horse-and-buggy days of America, so I am told, things were sold without any attention whatever to their shelf expression. Today, civilized shopping is so much more exciting.

The marvels of packaging are too numerous for me to catalog for you, but I can assure you that when I return to Coconut Grove I intend to do something about our rude merchandising practice. Instead of selling naked coconuts, we will have every owner of a grove devise a distinctive wrapper for his nuts. We can then think up pretty names for each grove's yield. We may have, for example, "Monkey-kist" Coconuts, "Zephyr-blown" Coconuts, and so on. It is wonderful to buy things which have pretty names.

You will also see at once that advertising becomes possible only when you have wrappers and names for goods. The advertising business must flourish in our country, too. This will stimulate much

new poetry among our people. Think of it! You and I can name our crop "Milk-of-Heaven" Kokonutts, and we can advertise in the newspapers like this:

"The NUTT that looks at God all day
Whose milk ne'er sours though
cyclones sway!"

We can have slogans, too: "Our NUTTS are the nuts!" and "You'll never go nuts with MILK-OF-HEAVEN KOKONUTTS!"

Packages not only have the advantage of making people happy with their pretty colors and designs, they also contribute greatly to the general happiness by making people think that they are getting more for their money. It is possible to make a package or a bottle in such a way that it appears to be larger than it really is. This optical illusion benefits the buyer by giving him the great psychological satisfaction of getting a bargain, and it benefits the seller by enabling him to effect a wider distribution of wealth.

Furthermore, when the package is not transparent, it is not necessary to fill it completely. Here in America, for example, the manufacturers of soap flakes and breakfast cereals, to mention only two among hundreds, often fill their packages only two thirds full. It's the big package that people really want. What do they care about exact weights and measures, unless they are stupid fanatics like Impervious? Impervious says that slack

fill is deceitful; but I remind him that the great Greek poet, Aeschylus, said that "God is not averse to deceit in a holy cause." Surely, increased sales is a holy cause, for the happiness of people rests upon prosperity.

Finally, I must call your attention to one of the blessings of packaging which is almost magical in nature. When prices are rising (and I have already told you that higher prices are one of the chief aims of the More-Abundant-Life period through which America is now passing), it is possible to secure the blessings of high prices and at the same time to avoid giving pain to people who live in Maine and Vermont (two of the backward districts of this country). It is packaging which makes mounting prices painless to these people who do not believe in the More Abundant Life. All you need to do is to lessen the amount of the contents of the package while retaining the usual size of the package, and in this way you avoid bringing the higher price to the attention of the backward buyer. Or since people generally buy their goods by the package unit rather than by any attention to the weight and measure of the contents of the package, it is easily possible to reduce the size of the package as well as the amount of the contents without their noticing it. What people don't notice doesn't hurt them!

It goes without saying, of course, that a vast number of people may be given

employment in the making of the packages in which goods attain their lovely shelf expression.

Naturally, I shall introduce Christmas — the great Festival of the Package — when I return to Coconut Grove.

Yours hopefully,

# STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Consumers' Digest, published monthly at East Stroudsburg, Pennsylvania for October 1, 1937.

State of New Jersey }
County of Warren } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. B. Matthews, who, having been duly sworn according to law, deposes and says that he is the Managing Editor of the Consumers' Digest and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Consumers' Research, Inc., Washington, N. J.; Editor, F. J. Schlink, Washington, N. J.; Managing Editor, J. B. Matthews, Washington, N. J.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Consumers' Research, Inc., a non-profit organization which has no stock, no dividends, and no stockholders.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is .... (This information is required from daily publications only.)

J. B. MATTHEWS,
Managing Editor.

Sworn to and subscribed before me this 23rd day of September, 1937.

[SEAL.] MARY S. RAUB.
(My commission expires January 8, 1940)

Washington, N. J.
October 24, 1937.

Dear Reader,

It's not too early to think of Christmas presents. Why not give subscriptions to Consumers' Digest or Consumers' Research Bulletin to your friends and relatives who are not already subscribers? Here's what a yearly subscription to each includes:

Consumers' Digest

12 monthly issues all full of helpful information, timely advice on what to buy (giving brand names), discussion and criticism of current advertising and sales tactics, and other topics of general interest to consumers — not confidential — an excellent gift for doctors and dentists for their waiting rooms — $3 a year, see special Christmas gift offer.

Consumers' Research Bulletin

10 issues monthly except during July and August, reports tests of commonly used products like toilet soap, razor blades, cosmetics, cameras, toasters, gasoline, and oil, listing them by brand name as Recommended, Intermediate and Not Recommended. All new subscribers receive free a copy of the Annual Cumulative Bulletin for September, 1937, of over 200 pages which is a summary of previous reports and tests — $3 a year, see special Christmas gift rates.

It's all very simple and easy, no shopping trip, no battling with crowds, no waiting for change. Just write the names and addresses of those to whom you wish to give the gift on the form bound in this issue, enclose your check, seal and drop it in the mail. We even send the card announcing your gift.

Very truly yours,

Consumers' Digest

# CONSUMERS DIGES

*A Saving Sense*
*Saves Dollars*

# CONSUMERS' DIGEST

## Your Christmas Shopping Guide

DECEMBER, 19
Vol. 2 . . . No.

The Truth about Miniature Cameras

25c

# CONSUMERS' DIGEST

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¶ *Consumers' Digest* presents only *Recommended* products in its listings. It is to be noted that the absence of any brand from the *Recommended* list does not imply a non-recommendation.

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## *Christmas Comes Just Once A Year!*

. . . . . ***But we'll send your Christmas gift every month.***

**See the order form bound in this issue for special gift rates for *Consumers' Digest* and Consumers' Research *Bulletin*.**

Vol. II. December, 1937 No. 6

# CONSUMERS' DIGEST

*The enlightened consumer is a necessary encouragement to merchandising integrity.*

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# Choosing Your Pictures

THE first ratings of motion pictures appeared in the November issue of *Consumers' Digest.* Thirty-four new pictures have been added to this new list, and one hundred thirty-two have been dropped. The entire list has been revised by recording the opinions of additional reviewers.

The ratings of pictures given herewith are based upon an analysis of the reviews published in the following periodicals: Boston *Transcript, Box Office, Christian Century, Christian Science Monitor, Commonweal, Cue, The Digest, Film Weekly, Harrison's Reports,* Hollywood *Spectator, Judge, Liberty,* Minneapolis *Journal, The Nation, The New Republic,* New York *Herald Tribune,* New York *Sun,* New York *Times,* New York *World-Telegram, New Yorker, News Week,* Philadelphia *Exhibitor, Stage, Time, Variety, Variety* (Hollywood), *Weekly Guide to Selected Pictures,* and the bulletins of the American Legion Auxiliary, Daughters of the American Revolution, General Federation of Women's Clubs, National Council of Jewish Women, National Legion of Decency, National Society of New England Women, Women's University Club of Los Angeles.

Films are rated "AA," "A," "B," and "C," which designate them as *strongly recommended, recommended, intermediate,* and *not recommended* respectively. The figures preceding each picture indicate the range of critical opinion regarding that picture as determined by an analysis of the reviews published in the aforementioned periodicals. Thus, "The Good Earth" is *strongly recommended* by twenty-five of these judges, *recommended* by four, and rated *intermediate* by one.

Audience suitability is indicated by *"A"* for adults, *"Y"* for young people (14-18), and *"C"* for children, at the end of each line.

Descriptive abbreviations are as follows:

*adv*—adventure
*biog*—biography
*com*—comedy
*cr*—crime and capture of criminals
*f*—foreign language
*hist*—founded on historical incident
*mel*—melodrama
*mus-com*—musical comedy
*mys*—mystery
*nov*—dramatization of a novel
*rom*—romance
*soc*—social-problem drama
*trav*—travelogue
*wes*—western

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | — | 2 | 6 | Aces Wild | *wes A* |
| — | 7 | 11 | 2 | Adventure in Manhattan | *com AY* |
| — | — | 8 | 4 | Adventurous Blonde | *mys A* |
| — | — | 1 | 7 | Affairs of Cappy Ricks | *mel AY* |
| — | 4 | 3 | 2 | African Holiday | *trav AYC* |
| 3 | 20 | 6 | 1 | After the Thin Man | *mys A* |
| 21 | 9 | — | — | Ah, Wilderness | *rom AY* |
| — | — | 1 | 4 | Alcatraz Island | *cr A* |
| — | 6 | 3 | — | Ali Baba Goes to Town | *mus-com A* |
| — | — | 2 | 5 | All Over Town | *com AY* |
| 3 | 20 | 7 | — | Amphitryon | *soc f A* |
| 2 | 5 | 5 | 3 | Angel | *rom A* |
| — | 3 | 11 | 5 | Angel's Holiday | *cr A* |
| 1 | 6 | 3 | 4 | Annapolis Salute | *rom AY* |
| — | 9 | 6 | 10 | Another Dawn | *rom A* |
| 12 | 15 | 2 | 1 | Anthony Adverse | *nov AY* |
| — | 9 | 10 | — | April Romance | *mus-rom AY* |
| — | — | 2 | 3 | Arizona Gunfighter | *wes AY* |
| — | 2 | 8 | 6 | Arizona Mahony | *wes AY* |
| — | 2 | 8 | 4 | Armored Car | *cr AY* |
| 1 | 14 | 2 | 2 | Artists and Models | *mus-com A* |
| — | 5 | 8 | 10 | As Good As Married | *rom A* |
| 4 | 14 | 8 | 3 | As You Like It | *com AY* |
| — | — | 2 | 7 | Atlantic Flight | *adv AY* |
| 1 | 3 | 1 | — | Ave Maria | *mus-rom AY* |
| 3 | 2 | — | — | Awful Truth | *com A* |
| — | 11 | 11 | 3 | Back in Circulation | *cr A* |
| — | 1 | 5 | 9 | Bad Guy | *mel A* |
| 6 | 3 | — | — | Baltic Deputy | *biog f AY* |
| — | 12 | 17 | 1 | Banjo on My Knee | *mel A* |
| — | — | 3 | 2 | Bank Alarm | *cr AYC* |
| 4 | 7 | 2 | — | Beethoven Concerto | *mus-rom f AYC* |
| — | 7 | 7 | 2 | Behind the Headlines | *com A* |
| 10 | 12 | 7 | 1 | Beloved Enemy | *hist AY* |
| — | 7 | 12 | 5 | Between Two Women | *mel AY* |
| — | 13 | 6 | — | Big Business | *com AYC* |
| 1 | 8 | 6 | 5 | Big City | *mel A* |
| — | — | 5 | 3 | Big Shot | *cr AY* |
| — | — | 1 | 5 | Bill Cracks Down | *soc A* |
| 4 | 21 | 2 | 1 | Black Legion | *soc A* |
| — | 8 | 3 | — | Blazing Sixes | *wes AYC* |
| — | 5 | 7 | 5 | Blonde Trouble | *com A* |
| — | 13 | 5 | 1 | Border Cafe | *wes AYC* |
| — | 9 | 6 | — | Borderland | *wes AYC* |
| 8 | 20 | 2 | — | Born to Dance | *mus-com AY* |
| — | 2 | 4 | 9 | Born Reckless | *cr A* |
| — | 9 | 4 | 1 | Borneo | *trav AYC* |
| — | 3 | 3 | — | Breakfast for Two | *com Y* |
| — | 10 | 11 | 8 | Breezing Home | *rom AYC* |
| — | — | 2 | 3 | Bride for Henry | *com Y* |
| 1 | 3 | 9 | 4 | Bride Wore Red | *com A* |
| 1 | 9 | 10 | 4 | Broadway Melody of 1938 | *mus-com AY* |
| — | 7 | 2 | 5 | Broken Blossoms | *soc A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 1 | 1 | 3 | Bulldog Drummond at Bay | *mys AY* |
| — | 4 | 5 | 10 | Bulldog Drummond Comes Back | *mys A* |
| — | 11 | 6 | 1 | Bulldog Drummond Escapes | *mys AY* |
| — | — | 2 | 8 | Bulldog Edition | *mel A* |
| — | 12 | 3 | — | Cafe Metropole | *rom A* |
| — | 1 | 2 | 6 | Californian | *wes AY* |
| — | 6 | 7 | 6 | California Straight Ahead | *com AYC* |
| 2 | 26 | 1 | 1 | Call It a Day | *com AYC* |
| 16 | 13 | 1 | — | Camille | *rom AY* |
| 18 | 12 | — | — | Captain Blood | *adv AY* |
| 26 | 4 | — | — | Captains Courageous | *nov AYC* |
| 10 | 9 | 2 | 1 | Carnival in Flanders | *com f A* |
| — | 6 | 7 | 8 | Case of the Black Cat | *mys AY* |
| — | 6 | 5 | — | Case of the Stuttering Bishop | *mys AY* |
| 2 | 15 | 8 | 5 | Champagne Waltz | *mus-com AY* |
| 14 | 7 | 3 | 1 | Charge of the Light Brigade | *adv AY* |
| — | 18 | 2 | — | Charlie Chan at the Olympics | *mys AY* |
| — | 21 | — | — | Charlie Chan at the Opera | *mys AY* |
| — | 13 | 1 | 1 | Charlie Chan on Broadway | *mys AY* |
| — | 2 | 4 | 4 | Cherokee Strip | *wes AYC* |
| — | 2 | 2 | 10 | China Passage | *mys A* |
| — | 1 | 2 | 4 | Circus Girl | *rom A* |
| — | 8 | 7 | 5 | Clarence | *rom AY* |
| 1 | 15 | 8 | 4 | College Holiday | *mus-com AY* |
| 13 | 12 | 3 | 2 | Come and Get It | *nov A* |
| — | 5 | 4 | 3 | Come Closer, Folks | *com A* |
| — | 6 | 3 | 6 | Confession | *mel A* |
| — | 7 | 10 | 3 | Conflict | *mel A* |
| — | 6 | 8 | 1 | Cornered | *mel A* |
| — | 1 | 3 | 4 | Counsel for Crime | *cr A* |
| — | 1 | 3 | 5 | Counterfeit Lady | *mys A* |
| 9 | 21 | — | — | Country Doctor | *rom AYC* |
| — | 3 | 3 | — | Cowboy Star | *wes AYC* |
| — | 7 | 5 | 3 | Crack-up | *cr A* |
| 15 | 11 | 3 | 1 | Craig's Wife | *soc AY* |
| — | 2 | 4 | 7 | Crime Nobody Saw | *mys AY* |
| — | 4 | 6 | 8 | Criminal Lawyer | *cr A* |
| — | — | 3 | 4 | Criminals of the Air | *cr AY* |
| — | 1 | 2 | 2 | Crimson Circle | *mys A* |
| — | 5 | 2 | 1 | Damaged Goods | *soc A* |
| — | 6 | 8 | 4 | Dance, Charlie, Dance | *com A* |
| 7 | 12 | 4 | 2 | Dancing Pirate | *mus-com AY* |
| — | 9 | 2 | — | Danger, Love at Work | *com A* |
| — | — | — | 6 | Dangerous Holiday | *cr AY* |
| — | 9 | 13 | 8 | Dangerous Number | *com AY* |
| — | — | 2 | 7 | Dangerously Yours | *mys A* |
| 17 | 13 | — | — | Dark Angel | *rom AY* |
| 23 | 7 | — | — | David Copperfield | *nov AYC* |
| 4 | 19 | 5 | 2 | Day at the Races | *com AY* |
| 14 | 6 | — | — | Dead End | *soc AY* |
| 2 | 4 | 5 | — | Dead March | *soc AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 2 | 23 | 3 | — | Devil Doll | *mys AY* |
| 9 | 19 | 1 | 1 | Devil Is a Sissy | *youth AYC* |
| — | 7 | 5 | — | Devil Is Driving | *soc A* |
| — | 1 | 10 | 5 | Devil's Playground | *mel A* |
| 1 | 17 | 9 | 1 | Dimples | *com AY* |
| — | 11 | 12 | 3 | Doctor's Diary | *soc A* |
| 1 | 2 | 2 | — | Dr. Knock | *com f A* |
| — | 3 | 2 | 2 | Dodge City Trail | *wes AYC* |
| 18 | 12 | — | — | Dodsworth | *soc A* |
| — | 7 | 7 | 2 | Don't Pull Your Punches | *mel AYC* |
| — | 6 | 8 | 7 | Don't Tell the Wife | *cr A* |
| — | 3 | 6 | 4 | Don't Turn 'Em Loose | *soc A* |
| — | 3 | 10 | 8 | Double or Nothing | *mus-com A* |
| — | 5 | 7 | 2 | Double Wedding | *com A* |
| — | — | 2 | 3 | Dreaming Lips | *rom A* |
| 1 | 18 | 9 | 1 | Easy Living | *com AY* |
| — | 6 | 1 | — | Ebb Tide | *adv AY* |
| — | 1 | 1 | 3 | Ecstacy | *rom f A* |
| 11 | 14 | 4 | 1 | Elephant Boy | *trav AYC* |
| 1 | 15 | 12 | 2 | Emperor's Candlesticks | *mys AY* |
| — | 2 | 2 | 1 | Escape by Night | *mel A* |
| 12 | 17 | 1 | — | Eskimo | *trav AY* |
| — | 3 | 5 | 11 | Espionage | *adv A* |
| 4 | 13 | 2 | 1 | Eternal Mask | *soc f A* |
| — | 3 | 9 | 18 | Ever Since Eve | *com A* |
| — | 1 | 3 | 1 | Everybody Dance | *mus-com A* |
| — | 3 | 5 | 7 | Everything Is Thunder | *mel A* |
| — | 11 | 5 | 5 | Exclusive | *cr AY* |
| 1 | 6 | 4 | 1 | Fair Warning | *mys AY* |
| 5 | 16 | 4 | — | Family Affair | *soc AYC* |
| — | 11 | 10 | 9 | Fifty Roads to Town | *com A* |
| — | 4 | 3 | 1 | Fight for Your Lady | *com AY* |
| — | — | 1 | 6 | Fight to the Finish | *mel A* |
| — | 3 | 2 | 2 | Find the Witness | *mys AY* |
| 3 | 17 | 7 | — | Fire over England | *hist AYC* |
| 7 | 6 | 3 | — | Firefly | *mus-rom AY* |
| 3 | 9 | 1 | — | First Lady | *rom A* |
| — | 3 | 2 | 1 | Fit for a King | *com AYC* |
| — | 11 | 7 | 3 | Flight from Glory | *adv AY* |
| — | 2 | 5 | 2 | Fly Away Baby | *com A* |
| — | 14 | 10 | — | Flying Hostess | *adv AY* |
| — | 1 | 2 | 9 | Footloose Heiress | *rom A* |
| 1 | 11 | 3 | 1 | Forever Yours | *mel AY* |
| — | 7 | 3 | 1 | Forlorn River | *wes AYC* |
| — | 5 | 4 | 1 | Forty Naughty Girls | *mel A* |
| — | 1 | 6 | 2 | Frame-up | *mel AY* |
| 13 | 17 | — | — | Fury | *soc AY* |
| — | — | 3 | 4 | Fury and the Woman | *mel A* |
| — | 1 | 4 | — | Fury over Spain | *soc AY* |
| — | 2 | 4 | 3 | Gangway | *mus-mel A* |
| 8 | 15 | 6 | 1 | Garden of Allah | *rom A* |
| 10 | 19 | 1 | — | Gay Desperado | *mus-com AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 5 | 16 | 2 | 1 | General Died at Dawn | *adv AY* |
| 14 | 13 | — | — | Ghost Goes West | *mys AYC* |
| — | — | 2 | 3 | Ghost Patrol | *wes A* |
| — | 2 | 2 | 1 | Ghost Town Gold | *wes AY* |
| — | 2 | 4 | 6 | Girl from Scotland Yard | *cr A* |
| — | 4 | 7 | 4 | Girl Loves Boy | *rom AY* |
| — | 4 | 8 | 9 | Girl Overboard | *mys AY* |
| 1 | 8 | 4 | 2 | Girl Said No | *mus-rom AY* |
| 2 | 21 | 6 | 1 | Girls' Dormitory | *rom A* |
| — | 5 | 2 | — | Git Along Little Dogies | *wes AY* |
| — | 9 | 6 | — | Go Getter | *com AY* |
| — | 13 | 4 | 11 | Go West, Young Man | *com A* |
| 6 | 13 | 6 | 2 | God's Country and the Woman | *rom AY* |
| — | — | 3 | 7 | Gold Racket | *cr A* |
| — | 11 | 7 | — | Golem | *mel f A* |
| 1 | 6 | — | — | Golgotha | *biog AYC* |
| 25 | 4 | 1 | — | Good Earth | *nov A* |
| 1 | 11 | 14 | 4 | Good Old Soak | *com A* |
| — | 1 | 2 | 2 | Grandeur et Decadence | *mel f A* |
| — | 9 | 8 | 7 | Great Gambini | *mel A* |
| — | 6 | 1 | — | Great Garrick | *biog. AY* |
| — | 22 | 1 | 3 | Great Guy | *cr AY* |
| — | 1 | 4 | 12 | Great Hospital Mystery | *mys A* |
| 14 | 16 | — | — | Great Ziegfeld | *mus-com A* |
| 3 | 14 | 9 | 4 | Green Light | *soc AY* |
| 22 | 8 | — | — | Green Pastures | *religion AYC* |
| — | 1 | 1 | 4 | Gun Ranger | *wes AY* |
| — | — | 2 | 5 | Hats Off | *rom A* |
| — | 7 | 9 | 11 | Head over Heels in Love | *mus-com A* |
| — | — | 2 | 3 | Headin' for the Rio Grande | *wes AY* |
| 1 | 3 | 2 | — | Heart's Desire | *mus-rom AYC* |
| 1 | 5 | — | — | Heidi | *rom AYC* |
| — | 10 | 6 | 1 | Her Husband Lies | *mel A* |
| — | 4 | 9 | 17 | Her Husband's Secretary | *com A* |
| — | 2 | 3 | 2 | Heroes of the Alamo | *hist AY* |
| — | 2 | 6 | 14 | Hideaway Girl | *com A* |
| — | — | — | 5 | High Treason | *adv A* |
| 2 | 8 | 5 | 1 | High, Wide and Handsome | *mus-mel AYC* |
| — | 9 | 7 | 1 | Hills of Old Wyoming | *wes AYC* |
| 4 | 17 | 7 | 2 | History Is Made at Night | *rom AY* |
| — | 5 | 9 | 4 | Hit Parade | *mus-com A* |
| — | 11 | 2 | — | Hollywood Cowboy | *wes AYC* |
| — | 6 | 9 | 4 | Holy Terror | *com AY* |
| — | 11 | 3 | — | Hoosier Schoolboy | *nov AYC* |
| — | 8 | 2 | — | Hopalong Rides Again | *wes AYC* |
| — | 8 | 3 | — | Hot Water | *com AYC* |
| — | 5 | 10 | 3 | Hotel Haywire | *com A* |
| 4 | 3 | — | — | Human Adventure | *hist AY* |
| — | 1 | 6 | 2 | I Cover the War | *mel AY* |
| 13 | 17 | — | — | I Live My Life | *com AY* |
| 16 | 11 | 3 | — | I Met Him in Paris | *com A* |
| — | 8 | 6 | — | I Promise to Pay | *cr A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | — | 6 | — | Idol of the Crowds | *adv AYC* |
| 3 | 10 | 15 | 2 | In His Steps | *rom AYC* |
| 24 | 6 | — | — | Informer | *hist AY* |
| 1 | 15 | 10 | — | Internes Can't Take Money | *cr A* |
| — | 4 | 14 | 3 | Isle of Fury | *adv A* |
| — | — | 2 | 4 | It Can't Last Forever | *com A* |
| — | — | 1 | 6 | It Could Happen to You | *mel A* |
| — | 2 | 2 | 4 | It Happened in Hollywood | *cr A* |
| — | 5 | 1 | — | It Happened out West | *wes AYC* |
| — | 9 | 2 | — | It's All Yours | *com AYC* |
| 10 | 4 | — | — | It's Love I'm After | *com AY* |
| — | 2 | 7 | — | It's You I Want | *com A* |
| — | 8 | 1 | — | Janosik | *adv f A* |
| — | 3 | 4 | 4 | Jim Hanvey, Detective | *mys A* |
| — | 3 | 12 | 5 | John Meade's Woman | *soc A* |
| — | 7 | 5 | 2 | Join the Marines | *com AY* |
| — | 8 | 6 | 5 | Jungle Princess | *rom AY* |
| — | 4 | 4 | 2 | Kelly the Second | *com AY* |
| 5 | 16 | 6 | — | Kid Galahad | *cr A* |
| 1 | 5 | 3 | 2 | Kimiko | *soc f A* |
| 1 | 11 | 7 | 1 | King and the Chorus Girl | *com A* |
| 1 | 8 | 13 | 8 | King of Gamblers | *cr A* |
| — | — | 8 | 9 | King of Hockey | *rom A* |
| 1 | 14 | 5 | 2 | King Solomon's Mines | *adv AYC* |
| — | 1 | 3 | 1 | Kliou, the Killer | *trav AY* |
| 3 | 13 | 8 | — | Knight without Armor | *adv. A* |
| — | 3 | 6 | 9 | Lady Escapes | *rom A* |
| — | 8 | 1 | 2 | Lancer Spy | *adv AY* |
| — | 4 | 5 | 1 | Land beyond the Law | *wes AY* |
| — | 4 | 6 | 2 | Larceny on the Air | *cr AY* |
| — | — | — | 8 | Lash of the Penitentes | *soc A* |
| 1 | 16 | 5 | 3 | Last of the Mohicans | *nov. AYC* |
| — | 14 | 11 | 5 | Last of Mrs. Cheyney | *mys A* |
| 2 | 4 | 2 | 1 | Last Night | *hist f A* |
| — | 8 | 12 | 10 | Last Train from Madrid | *mel A* |
| — | — | 3 | 2 | Law of the Ranger | *wes AYC* |
| — | 2 | 3 | — | Lawman Is Born | *wes AYC* |
| — | 4 | 2 | 2 | LeJuif Polonais | *mel f AY* |
| 1 | 8 | 2 | — | League of Frightened Men | *mys AY* |
| — | — | 1 | 4 | Left-handed Law | *wes AY* |
| — | 5 | 6 | 3 | Legion of Terror | *soc A* |
| — | 1 | 2 | 9 | Let's Get Married | *com AY* |
| — | 4 | 11 | 7 | Let's Make a Million | *com AY* |
| — | 10 | 11 | — | Let Them Live | *mel A* |
| 17 | 10 | 2 | 1 | Libeled Lady | *com AY* |
| 1 | 7 | 8 | 3 | Life Begins in College | *mus-com A* |
| 16 | 4 | — | — | Life of Emile Zola | *biog AYC* |
| — | 4 | 5 | 10 | Life of the Party | *mus-com A* |
| 17 | 13 | — | — | Lives of a Bengal Lancer | *adv AY* |
| 19 | 10 | 1 | — | Lloyds of London | *hist AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 7 | 9 | 3 | London by Night | *mys AY* |
| 23 | 5 | 1 | 1 | Lost Horizon | *nov AYC* |
| 24 | 6 | — | — | Lost Patrol | *adv AY* |
| — | 2 | 1 | 2 | Love and Money | *rom f A* |
| — | — | 5 | 2 | Love Begins at Twenty | *com AY* |
| 2 | 15 | 7 | — | Love from a Stranger | *mys A* |
| — | 3 | 9 | 4 | Love in a Bungalow | *com AYC* |
| — | 26 | 4 | — | Love Is News | *com AY* |
| — | — | 2 | 7 | Love Is on the Air | *cr A* |
| — | 6 | 8 | 5 | Love Letters of a Star | *com A* |
| 1 | 18 | 4 | 4 | Love on the Run | *com AY* |
| — | — | 2 | 4 | Love Takes Flight | *rom AY* |
| — | 3 | 5 | 4 | Love under Fire | *rom AY* |
| 1 | 7 | 5 | 1 | Lower Depths | *soc f A* |
| — | 14 | 8 | 4 | Luckiest Girl in the World | *com AYC* |
| — | 3 | 2 | 2 | Lucrezia Borgia | *hist f A* |
| — | 5 | 5 | 2 | Madam X | *mel A* |
| — | 10 | 13 | 7 | Magnificent Brute | *mel A* |
| 8 | 15 | 5 | 2 | Maid of Salem | *hist AY* |
| 1 | 6 | 9 | 4 | Make a Wish | *rom AYC* |
| — | 11 | 9 | 7 | Make Way for a Lady | *rom AY* |
| 11 | 13 | 2 | — | Make Way for Tomorrow | *soc AY* |
| — | 7 | 3 | 5 | Mama Steps Out | *com AY* |
| — | 1 | 6 | 3 | Man Betrayed | *com AY* |
| — | 4 | 5 | 1 | Man in Blue | *cr A* |
| 7 | 8 | 7 | 5 | Man of Affairs | *mel AYC* |
| — | 8 | 11 | 4 | Man of the People | *cr A* |
| 2 | 14 | 9 | 5 | Man Who Could Work Miracles | *com AY* |
| 2 | 3 | 4 | — | Man Who Cried Wolf | *mys A* |
| — | 7 | 6 | 3 | Man Who Lived Again | *mel AY* |
| — | 6 | 3 | 2 | Man Who Lived Twice | *mys A* |
| — | 23 | 2 | 5 | Marked Woman | *cr A* |
| — | 9 | 7 | 6 | Married before Breakfast | *com AY* |
| — | — | 2 | 16 | Marry the Girl | *com A* |
| — | 8 | 3 | 1 | Masquerade in Vienna | *mus-rom f A* |
| — | — | 2 | 3 | Maternite | *soc f A* |
| 6 | 9 | 1 | — | Mayerling | *rom f A* |
| 15 | 12 | 1 | — | Maytime | *mus-rom AYC* |
| — | — | 3 | 2 | Meet the Boy Friend | *rom A* |
| — | 5 | 3 | — | Meet the Missus | *com AY* |
| — | 2 | 11 | 4 | Melody for Two | *mus-rom A* |
| — | 4 | 4 | 5 | Melody on the Plains | *wes AY* |
| — | 5 | 11 | 11 | Men Are Not Gods | *mel A* |
| — | 4 | 4 | 5 | Men in Exile | *cr A* |
| — | — | — | 5 | Men of the Plains | *wes AY* |
| — | 3 | 2 | — | Merry-Go-Round of '38 | *mus-com A* |
| 28 | 2 | — | — | Metropolitan | *mus-rom AYC* |
| — | 15 | 5 | — | Midnight Court | *cr A* |
| — | 4 | 7 | 8 | Midnight Madonna | *cr A* |
| — | 2 | 10 | 8 | Midnight Taxi | *cr A* |
| 12 | 12 | 4 | 2 | Midsummer Night's Dream | *com AY* |
| — | 1 | 2 | 3 | Mile a Minute Love | *com A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 16 | 4 | 4 | Mind Your Own Business | *com AYC* |
| — | 5 | 4 | 4 | Missing Girls | *cr AY* |
| 28 | 2 | — | — | Mr. Deeds Goes to Town | *com AYC* |
| — | 4 | 7 | 5 | Mr. Dodd Takes the Air | *com AYC* |
| 19 | 11 | — | — | Modern Times | *com AYC* |
| — | — | 3 | 4 | Motor Madness | *cr A* |
| 1 | 14 | 7 | 3 | Mountain Justice | *soc A* |
| 1 | 4 | 9 | 10 | Mountain Music | *com AY* |
| — | 6 | 8 | 4 | Murder Goes to College | *mys A* |
| 5 | 6 | 6 | — | Music for Madam | *mus-rom AY* |
| 30 | — | — | — | Mutiny on the Bounty | *adv AY* |
| — | 3 | 5 | 3 | My Dear Miss Aldrich | *com AY* |
| 10 | 17 | 2 | 1 | My Man Godfrey | *com AY* |
| — | 1 | 9 | 2 | Mysterious Crossing | *mys AY* |
| — | 9 | 8 | 3 | Nancy Steele Is Missing | *cr A* |
| 24 | 6 | — | — | Naughty Marietta | *mus-rom AYC* |
| — | 1 | 3 | 5 | Navy Blues | *cr A* |
| — | — | — | 8 | Navy Spy | *adv A* |
| — | — | — | 6 | Nazar Stodolya | *rom f A* |
| — | 5 | 8 | 13 | New Faces of 1937 | *com AY* |
| 3 | 18 | 2 | — | New Gulliver | *soc AYC* |
| — | 13 | 6 | 1 | Night Key | *mys AY* |
| 6 | 16 | — | 1 | Night Must Fall | *cr A* |
| — | 2 | 6 | 9 | Night of Mystery | *cr A* |
| 15 | 10 | 4 | — | Nine Days a Queen | *hist AY* |
| 1 | 12 | 7 | 1 | Nobody's Baby | *com AY* |
| — | 4 | 6 | 2 | North of the Rio Grande | *wes AYC* |
| — | 6 | 15 | 3 | Oh, Doctor | *com AYC* |
| — | — | 3 | 4 | Oh, Susanna | *wes AYC* |
| — | 11 | 4 | 4 | Off to the Races | *com AYC* |
| 2 | 15 | 5 | 4 | Old Hutch | *com AYC* |
| — | 4 | 3 | 1 | Old Louisiana | *hist-wes AYC* |
| — | 3 | 4 | 2 | On Again—Off Again | *com AY* |
| — | 2 | 2 | 9 | On Such a Night | *mel A* |
| 2 | 16 | 10 | 2 | On the Avenue | *mus-com AY* |
| — | 4 | 8 | 4 | Once a Doctor | *soc A* |
| — | 7 | — | — | One Hundred Days of Napoleon | *hist f AY* |
| 19 | 2 | — | — | 100 Men and a Girl | *mus-rom AY* |
| 7 | 20 | 3 | — | One in a Million | *rom-com AYC* |
| — | 3 | 6 | 5 | One Mile from Heaven | *soc A* |
| 4 | 21 | 1 | — | One Rainy Afternoon | *com A* |
| — | 6 | 2 | — | Orphan Boy of Vienna | *mel f AYC* |
| — | 5 | 3 | 1 | Our Relations | *com AYC* |
| 2 | 8 | 7 | 3 | Ourselves Alone | *hist A* |
| — | 12 | 7 | 1 | Outcast | *soc A* |
| — | 6 | 8 | 5 | Outcasts of Poker Flat | *wes-soc A* |
| — | — | 3 | 6 | Outlaws of the Orient | *adv AY* |
| — | 1 | 2 | 7 | Over the Goal | *rom AYC* |
| — | 4 | 9 | 1 | Paradise Express | *soc AY* |
| — | 3 | 4 | 2 | Paradise Isle | *rom A* |
| — | 8 | 5 | — | Park Avenue Logger | *adv AYC* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 1 | 8 | 10 | 5 | Parnell | *hist A* |
| — | — | 1 | 5 | Paris Commune | *hist A* |
| — | 3 | 4 | 4 | Parole Racket | *cr A* |
| — | — | 1 | 8 | Partners in Crime | *cr A* |
| — | 15 | 7 | 1 | Pennies from Heaven | *mus-com AYC* |
| — | 18 | 6 | 2 | Penrod and Sam | *youth AY* |
| — | 12 | — | — | Perfect Specimen | *com AYC* |
| — | 7 | 10 | 13 | Personal Property | *com A* |
| 21 | 9 | — | — | Petrified Forest | *cr AY* |
| 1 | 13 | 8 | 6 | Piccadilly Jim | *com AY* |
| — | 5 | 9 | 12 | Pick a Star | *com AY* |
| 5 | 22 | 2 | 1 | Pigskin Parade | *com AYC* |
| 6 | 23 | 1 | — | Plainsman | *wes-hist AYC* |
| 10 | 13 | 5 | 2 | Plough and the Stars | *hist AY* |
| 4 | 14 | 4 | 3 | Polo Joe | *com AYC* |
| — | 15 | 8 | 3 | President's Mystery | *soc AY* |
| 11 | 19 | — | — | Prince and the Pauper | *nov AYC* |
| — | — | 1 | 7 | Prince Jean | *rom f A* |
| 21 | 9 | — | — | Prisoner of Shark Island | *biog AY* |
| 20 | 6 | — | — | Prisoner of Zenda | *mel AY* |
| 1 | 1 | 2 | 3 | Prisoners | *soc f A* |
| — | 2 | 3 | — | Public Cowboy No. 1 | *wes AYC* |
| — | 2 | 4 | 10 | Public Wedding | *rom A* |
| 8 | 21 | 1 | — | Quality Street | *rom AYC* |
| — | 4 | 5 | 3 | Racketeers in Exile | *com A* |
| 6 | 15 | 7 | 1 | Ramona | *nov AYC* |
| — | 3 | 4 | — | Range Defenders | *wes AYC* |
| 1 | 6 | — | — | Razumov | *soc f A* |
| — | 9 | 12 | 5 | Ready, Willing and Able | *com A* |
| — | 2 | 1 | 1 | Red Rope | *wes AY* |
| 6 | 5 | 5 | 3 | Rembrandt | *biog AY* |
| — | — | 6 | 5 | Reported Missing | *cr AY* |
| — | 12 | 7 | 4 | Reunion | *com AY* |
| — | 4 | 3 | 1 | Revolutionists | *hist f A* |
| — | — | 4 | 2 | Rhythm in the Clouds | *rom AY* |
| — | 2 | 4 | — | Ride, Ranger, Ride | *wes AY* |
| — | 12 | 6 | 2 | Riding on Air | *com AYC* |
| 5 | 13 | 6 | 6 | Road Back | *mel AY* |
| — | 3 | 5 | 1 | Roaring Timber | *mel AYC* |
| — | 5 | 8 | 4 | Robber Symphony | *mel A* |
| — | 2 | 5 | 6 | Romance and Riches | *com AYC* |
| 24 | 5 | 1 | — | Romeo and Juliet | *rom AY* |
| 15 | 14 | — | — | Rosemarie | *mus-rom AY* |
| — | 1 | 2 | 1 | Roundup Time in Texas | *wes AYC* |
| — | 8 | 3 | 1 | Rustler's Valley | *wes AYC* |
| 23 | 7 | — | — | San Francisco | *hist AY* |
| — | 7 | 12 | 3 | San Quentin | *soc AY* |
| — | 1 | 4 | 2 | Sandplow | *wes AYC* |
| — | 8 | 9 | 8 | Saratoga | *com A* |
| — | 4 | 1 | 4 | Saturday's Heroes | *mel Ay* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 24 | 6 | — | — | Scarlet Pimpernel | *adv AY* |
| — | 12 | 12 | 6 | Sea Devils | *adv AY* |
| — | 10 | 9 | 2 | Secret Valley | *mys AY* |
| 5 | 15 | 3 | 4 | Seventh Heaven | *rom AY* |
| — | — | — | 6 | Shadow Strikes | *mys A* |
| — | 2 | 3 | 5 | Shadows of the Orient | *Mel A* |
| 5 | 19 | 4 | 2 | Shall We Dance? | *mus-com AY* |
| — | 2 | 5 | 6 | She Asked for It | *com A* |
| — | — | 5 | 12 | She Had to Eat | *com A* |
| — | — | — | 10 | She's No Lady | *cr A* |
| — | — | 5 | 2 | Sheik Steps Out | *adv AY* |
| 24 | 5 | 1 | — | Showboat | *nov AYC* |
| 2 | 9 | 6 | 6 | Silent Barriers | *hist AYC* |
| — | 6 | 3 | 11 | Sing and Be Happy | *com A* |
| 1 | 3 | 2 | 1 | Sing, Baby, Sing | *com A* |
| 2 | 15 | 6 | 2 | Sing Me a Love Song | *mus-com AY* |
| — | 2 | 2 | 5 | Sing While You're Able | *rom A* |
| — | 13 | 12 | — | Singing Marine | *mus-com AYC* |
| — | 9 | 9 | 2 | Sinner Take All | *mys AY* |
| 1 | 13 | 4 | 2 | Slave Ship | *hist A* |
| 4 | 14 | 4 | — | Slim | *rom AY* |
| — | 11 | 8 | 4 | Smart Blonde | *mys AY* |
| — | 12 | 2 | 6 | Smartest Girl in Town | *com AY* |
| — | 3 | 2 | — | Smoke Tree Range | *wes AYC* |
| 4 | 14 | 7 | 5 | Soldier and the Lady | *adv AY* |
| 3 | 9 | 6 | 1 | Something to Sing About | *mus-com AY* |
| 1 | 4 | 1 | — | Son of Mongolia | *"wes" f AY* |
| — | 6 | 9 | 5 | Song of the City | *rom A* |
| — | 2 | 2 | 1 | Song of the Gringo | *wes AY* |
| — | 3 | 5 | 6 | Sophie Lang Goes West | *mel A* |
| 1 | 7 | 4 | 1 | Souls at Sea | *mel A* |
| — | 6 | 2 | 1 | Spain in Flames | *hist f A* |
| 5 | 1 | 1 | — | Spanish Earth | *hist A* |
| 15 | 6 | 1 | — | Stage Door | *com AY* |
| 3 | 3 | 1 | — | Stand-In | *com AY* |
| 8 | 18 | 3 | 1 | A Star Is Born | *rom A* |
| — | 1 | 3 | 1 | Stars Over Arizona | *wes AY* |
| 12 | 8 | 2 | — | Stella Dallas | *soc A* |
| — | 9 | 7 | 5 | Step Lively, Jeeves | *com A* |
| 23 | 7 | — | — | Story of Louis Pasteur | *biog AYC* |
| 1 | 18 | 1 | — | Stowaway | *com AYC* |
| — | 2 | 10 | 18 | Strangers on a Honeymoon | *com A* |
| 1 | 8 | 12 | 1 | Super Sleuth | *mys AY* |
| — | 1 | — | 4 | Sweetheart of the Navy | *com A* |
| — | 13 | 10 | 7 | Swing High, Swing Low | *com A* |
| 8 | 7 | 1 | 1 | Swing Time | *mus-com AY* |
| 25 | 5 | — | — | Tale of Two Cities | *hist AY* |
| — | 1 | 2 | 2 | Tales from Vienna Woods | *mus-rom AY* |
| — | 14 | 5 | 3 | Tarzan Escapes | *adv AY* |
| — | — | 6 | — | Tenth Man | *mel AY* |
| 1 | 10 | 7 | 2 | Texas Rangers | *wes AY* |
| — | 3 | 4 | — | Thank You, Madam | *mus-rom f AY* |
| 1 | 6 | 7 | 6 | That Certain Woman | *rom A* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| 2 | 16 | 9 | 3 | That Girl from Paris | *com A* |
| — | 4 | 6 | 5 | That I May Live | *cr A* |
| — | 3 | 10 | 6 | That Man's Here Again | *com A* |
| 9 | 15 | 2 | 1 | Theodora Goes Wild | *com AY* |
| — | 5 | 12 | 6 | There Goes My Girl | *com AY* |
| — | 3 | 4 | 4 | There Goes the Groom | *com A* |
| 11 | 17 | 2 | — | These Three | *rom A* |
| 3 | 12 | 6 | 6 | They Gave Him a Gun | *cr A* |
| — | 5 | 6 | 8 | They Wanted to Marry | *com AY* |
| 7 | 17 | 3 | — | They Won't Forget | *soc A* |
| 16 | 12 | 2 | — | Thin Ice | *rom AY* |
| 3 | 21 | 2 | — | Things to Come | *mel AY* |
| — | 11 | 2 | 1 | Think Fast, Mr. Moto | *mys AYC* |
| 2 | 6 | — | — | The Thirteen | *adv f AY* |
| 2 | 17 | 6 | — | Thirteenth Chair | *mys AY* |
| — | — | 2 | 4 | Thirteenth Man | *mys AY* |
| — | 3 | 1 | 1 | Thirty Seconds of Love | *rom f A* |
| 18 | 12 | — | — | Thirty-nine Steps | *mys AY* |
| 1 | 1 | 4 | — | This Is China | *trav AY* |
| 5 | 20 | 5 | — | This Is My Affair | *rom A* |
| — | 1 | 1 | 9 | This Way Please | *mus-com A* |
| — | 1 | 2 | 2 | This'll Make You Whistle | *mus-com A* |
| — | 1 | 4 | — | Three Legionnaires | *mel AY* |
| 4 | 16 | 6 | 4 | Three Men on a Horse | *com A* |
| 10 | 18 | 2 | — | Three Smart Girls | *rom-com AYC* |
| — | 7 | 8 | 11 | Thunder in the City | *mel A* |
| — | 4 | 2 | — | Thunder Trail | *wes AYC* |
| — | 5 | 10 | 9 | Time out for Romance | *com AY* |
| 2 | 17 | 9 | 2 | Toast of New York | *hist AY* |
| — | 1 | 5 | 11 | Too Many Wives | *com A* |
| — | 6 | 7 | 12 | Top of the Town | *mus-com A* |
| 3 | 18 | 3 | 1 | Topper | *com AY* |
| — | 5 | 6 | 7 | Trail Dust | *wes AY* |
| 7 | 19 | 4 | — | Trail of the Lonesome Pine | *rom AY* |
| — | 4 | 5 | 3 | Trouble in Morocco | *adv AY* |
| 4 | 6 | 2 | 1 | Tsar to Lenin | *hist f A* |
| 4 | 6 | 1 | 1 | Tundra | *trav AYC* |
| — | 17 | 8 | 1 | Turn Off the Moon | *mus-com AY* |
| — | 12 | 5 | — | 23½ Hours' Leave | *com AY* |
| 1 | 16 | — | — | Two in the Dark | *mys AY* |
| — | 1 | 3 | 11 | Two Who Dared | *rom A* |
| — | 11 | 2 | — | Two Wise Maids | *youth AYC* |
| — | 11 | 10 | 2 | Under Cover of Night | *mel A* |
| — | 3 | 2 | — | Under Falsk Flagg | *cr f A* |
| — | 7 | 6 | 3 | Under the Red Robe | *hist A* |
| 2 | 19 | 1 | — | Under Two Flags | *adv A* |
| — | — | 2 | 3 | U. S. S. R.—1937 | *trav AY* |
| 5 | 17 | 7 | 1 | Valiant Is the Word for Carrie | *biog A* |
| 2 | 12 | 7 | 3 | Varsity Show | *mus-com AY* |
| 3 | 6 | 3 | — | Victoria the Great | *biog AY* |
| 8 | 10 | 4 | — | Vogues of 1938 | *mus-com AY* |

| AA | A | B | C | | |
|---|---|---|---|---|---|
| — | 17 | 13 | — | Waikiki Wedding | *mus-com A* |
| 2 | 16 | 3 | — | Wake Up and Live | *mus-com AY* |
| — | 14 | 3 | 2 | Wanted: Jane Turner | *cr AY* |
| — | 4 | 2 | 2 | The Wave | *soc f A* |
| — | 7 | 5 | 3 | Way out West | *com AY* |
| — | 9 | 11 | 6 | We Have Our Moments | *com-mys AY* |
| — | 12 | 13 | 5 | We Who Are about to Die | *mel A* |
| 9 | 17 | 2 | — | Wee Willie Winkie | *com AYC* |
| — | 1 | 3 | 7 | Week-end Millionaire | *com A* |
| — | 15 | 8 | 4 | We're on the Jury | *com AYC* |
| — | — | — | 7 | Western Gold | *wes AY* |
| — | — | 1 | 5 | Westland Case | *mys AY* |
| — | — | 3 | 3 | What Price Vengeance? | *cr A* |
| — | 15 | 8 | 4 | When Love Is Young | *com AY* |
| — | — | 6 | 5 | When Thief Meets Thief | *cr A* |
| 3 | 16 | 3 | — | When You're in Love | *mus-rom AYC* |
| 2 | 4 | 5 | 2 | When's Your Birthday? | *com AY* |
| — | 3 | 11 | 3 | White Bondage | *soc A* |
| — | 4 | 1 | — | White Gods | *trav f AY* |
| 2 | 8 | 4 | 1 | Wife, Doctor and Nurse | *rom A* |
| — | 3 | 4 | 3 | Wild and Wooly | *wes AYC* |
| — | 11 | 4 | 2 | Wild Money | *com AY* |
| — | 2 | 2 | 2 | Windjammer | *adv AY* |
| 12 | 16 | 2 | 2 | Wings of the Morning | *rom AY* |
| — | 9 | 9 | 2 | Wings over Honolulu | *adv AY* |
| — | 1 | 4 | 6 | Wine, Women and Horses | *cr A* |
| 26 | 3 | — | 1 | Winterset | *rom AY* |
| 1 | 16 | 8 | 1 | Wives Never Know | *com AY* |
| 3 | 14 | 9 | 1 | Woman Alone | *mys AY* |
| — | 19 | 7 | 4 | Woman Chases Man | *com AY* |
| 1 | 10 | 7 | 9 | Woman I Love | *rom AY* |
| — | 4 | 3 | 2 | Woman in Distress | *com AY* |
| 5 | 12 | 12 | 1 | Woman Rebels | *soc AY* |
| — | 4 | 12 | 2 | Woman Wise | *cr AY* |
| — | 2 | 4 | 4 | Women Men Marry | *rom A* |
| — | 1 | — | 12 | Women of Glamour | *rom A* |
| — | 5 | 3 | — | World's in Love | *mus-rom f AY* |
| — | 1 | 4 | 3 | Wrong Road | *cr A* |
| 7 | 4 | 1 | — | Yellow Cruise | *trav f AYC* |
| — | 9 | 5 | 4 | You Can't Buy Luck | *com AY* |
| 2 | 14 | 5 | 2 | You Can't Have Everything | *mus-com A* |
| 3 | 20 | 6 | 1 | You Only Live Once | *soc A* |
| — | 2 | 8 | 6 | You're in the Army Now | *com A* |

# Watches

THE number of working or useful jewels is a rough indication of quality of a watch, the higher-jeweled movements generally containing parts of better finish, more carefully selected, and more closely adjusted. Watches having less than fifteen jewels are not usually made and adjusted so as to be accurate or durable timekeepers. The number of jewels in a watch is, as a rule, stamped on the movement.

Very thin pocket watches and very small wrist watches cannot be expected to perform as well as the larger models. Likewise, wrist watches will not perform as well as pocket watches of the same price class. Very small watches are not capable of good timekeeping performance, will not run correctly as long between cleanings as a larger watch, and will very often offer extreme difficulties and considerably greater expense in keeping them in repair and adjustment. The quality of watch repair services has declined notably in recent years, and on that account it is more important than formerly to buy a watch of good reliable design and sound workmanship.

The best American-made watches are not surpassed for timekeeping and reliability except by Swiss watches of considerably higher price. Swiss watches of high grade can, however, be purchased in some foreign countries, for example, Mexico, Switzerland, and France, at prices about half those paid in United States for American movements of corresponding quality.

The caution against purchase of small and novel-shaped wrist watches applies to a degree to other types as well. Especially avoid novelty designs of all sorts, such, for example, as those in which the time is read on a number of dials through openings in the case. The consumer should

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not experiment with watches of freak designs as to form, dial, thinness, etc. Avoid watches whose makers claim they are proof against shock and falls, since such watches often have serious disadvantages that would be discovered only after they have been in use for a time; almost always unusual watches have low resale value.

An important consideration in the selection of a watch is maximum readability of time under extreme conditions of light. See that the hands and figures are well shaped, clear, and contrasting with the dial background. Decorated metal dials are often pretty, indeed, but they are invariably difficult to keep clean and surprisingly expensive to refinish when discolored. The old-fashioned porcelain dial can be kept clean and clear for a century with little care and practically no expense.

No one need pay over $65 to obtain the best watch available, considered as a timekeeper. Higher prices give one exceptional smallness, thinness, novel shapes, fancy dials, superior cases, and precious stones, but not better timekeeping ability.

### Recommended

*Hamilton* (Hamilton Watch Co., Lancaster, Pa.) Certainly among the best and most reliable timekeepers made.

*Waltham* (Waltham Watch Co., Waltham, Mass.) Also a fine watch. In lower-priced models, also rather better than other makes.

*Omega* (Omega Watch Co., 580 Fifth Ave., N.Y.C.)

*Longines* (Longines-Wittnauer Co., Inc., 6 W. 48 St., N.Y.C.)

*Zenith* (Zenith Watch Co., 64 W. 48 St., N.Y.C.)

*Nardin* (N. Y. agent: Bigalke & Eckert, 527 Fifth Ave., N.Y.C.)

*Vacheron* and *Constantin* (N. Y. agent: Edmond E. Robert, 3 Maiden Lane, N.Y.C.)

*Elgin* (higher-priced models) (Elgin National Watch Co., 35 E. Wacker Drive, Chicago)

*Patek Philippe* (N. Y. branch: Patek Philippe & Co., 607 Fifth Ave., N.Y.C.)

*Agassiz* (N. Y. agent: Longines-Wittnauer Co.)

*Illinois* (Illinois Watch Co.; acquired in 1928 by the Hamilton Watch Co.) *Illinois* watches, now marketed by Hamilton, are limited to watches designed primarily for railroad use.

QUALIFIED RECOMMENDATION

*Benrus* (Benrus Mfg. Co., Waterbury, Conn.)

# Cheap Watches

THE best watches of this class will continue to run after considerable abuse but at best they will keep poor time, no matter what the advertising claims, and, compared with a good watch, such timekeeping qualities as they have will be short-lived. Any of the cheaper types of watches, even though by their appearance they suggest the more expensive makes, had best be considered as more suitable for children or for persons whose habits, exceptional activity, or occupation make the use of a good watch uneconomical or unnecessary.

QUALIFIED RECOMMENDATION

*Dax* and *Pocket Ben* Pocket Watches (Western Clock Co., La Salle, Ill.) $1.50. Judged by a qualified technician to be superior among watches obtainable for less than $5.

*Ingraham* Wrist Watch (E. Ingraham Co., Bristol, Conn.) $1.95.

*Tip-Top Quintet* Pocket Watch (New Haven Clock Co., New Haven, Conn.) $2.50. Compensated. Raised numerals.

*Tip-Top, Jr.* Wrist Watch, Silver Dial (New Haven Clock Co.) $4.50. Compensated.

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# Fountain Pens

CHRISTMAS time is a favorite time for buying fountain pens. Unfortunately, it is necessary to caution the Christmas buyer that millions of very bad fountain pens are continually sold whose quality is so bad that they hardly function effectively for a week after they have gotten into the purchaser's hands. Many fountain pen makers produce for drugstore, variety chain, mail-order, and novelty shop outlets pens which are literally fraudulent in character; some do not write with good ink, and others can not be made to write with any ink.

For ordinary use, the average "standard make" fountain pen should last a lifetime, so far as the mechanics of the pen are concerned. Almost any reputable make should give five or six years of uninterrupted service, the first failure being the rubber sac (which may cost twenty-five cents).

Fountain pen guaranties frequently turn out to mean something quite different from what the consumer supposes at the time of purchase. It is best on the whole to disregard the guaranties, and certainly in no case to pay a price for a guaranteed pen above that asked for a non-guaranteed pen of comparable size, type, and finish.

Very recently a number of interesting developments have occurred in the design and production of low-cost fountain pens, and really cheap pens of good quality are beginning to be available.

### Nibs

Because the flexible nib works better than do other nibs when a pen has had a mixture of inks in it, flexible nibs have often been preferred. Greater smoothness and writing quality will be obtained with an inflexible or "manifold" pen, which offers the advantage that one or two satisfactory carbon copies can be made from the pen-written original

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True, the stiff-nib manifold pen will give an unusual amount of difficulty with clogging and failure to feed promptly for any user who will not *use one brand and color of ink in a given pen.* Manifold points are far more durable and immune to mistreatment, *except* ink mixing and ink contamination.

### General Advice

Make your selection of any fountain pen in a careful, leisurely fashion; insist upon trying, at your own pace, a large assortment of pens in the models and price class which interest you. A band on the cap to prevent its splitting is desirable. The nib should be tested on several kinds of paper; a really smooth nib should write without catching, even on newspaper. The pen should give a free rather than a scant flow of ink—a factor which a competent dealer can adjust to your satisfaction.

Consumers are advised (no matter what representation to the contrary is made by dealers or advertisers) not to purchase pens of unknown brands or brands which do not show a maker's name and address, except the few such pens listed below.

#### Recommended

*Esterbrook* (Esterbrook Steel Pen Mfg. Co., Camden, N. J.) $1. Corrosion resisting, stainless-steel-type alloy pen with replaceable feed and nib (25 cents).

*Gold Bond,* Cat. No. 845—6483 (Distrib. Montgomery Ward & Co.) $1.69 plus postage. "Iridium" tipped gold pen. Pump-filled, visible ink supply. Large ink capacity, good nibs.

*Good Service,* Cat. No. 4—5750 (Good Service Pen Co., Chicago; distrib. Sears, Roebuck & Co.) $1.19 plus postage. One of the few low-priced pens having stiff (manifold) smooth point. Corrosion-resisting, stainless-steel-type alloy pen.

*Sheaffer* (W. A. Sheaffer Pen Co., Fort Madison, Iowa)

Smooth points probably more easily found in this make than in any other.

*Sheaffer* Junior (W. A. Sheaffer Pen Co.) $2.25. "Iridium" tipped gold pen. Pump-filled, visible ink supply. Large ink capacity.

*Vacuum-Fil* (Made by Sheaffer) $2.95. "Iridium" tipped gold pen. An exceptionally well-made and rugged small pen. In the gold-pen class, a good buy at the price. Pump-filled, visible ink supply.

*Waterman's Ideal* (L. E. Waterman Co., 191 Broadway, N.Y.C.) Probably the best of the flexible-nib pens, somewhat less sensitive to clogging due to ink mixing. Model No. 52 at $2.75 (with manifold nib, $3.25) still an excellent buy. Model No. 94, at $5, with manifold nib and unbreakable holder, good value. Special types of pen points, such as for music writing, are supplied by Waterman; their selection and repair service believed to be best of all makes.

*Waterman Ink-Vue,* Model No. 84 (L. E. Waterman Co.) $5. "Iridum" tipped gold pen. New type, pump-filled, visible ink supply.

### Qualified Recommendation

*Epenco* Iridium Tipped (Distrib. G. C. Murphy Co.) 25 cents (Distrib. Sears, Roebuck & Co., Cat. No. 3—7702) 21 cents plus postage. "Iridium" tipped, gold-plated stainless-alloy point. Well-finished, cheap, lever-filling pen. May, like *La Ritzie,* be sold under other names by other dealers. A promising candidate as a pen for school children and for those who are hard on pens or lose them easily.

*La Ritzie* (Distrib. S. S. Kresge Co.) 39 cents. This may be sold under other names and by other chains. Its distinguishing characteristic is a cheap but well-smoothed 10-carat gold pen point, backed by a stiffening plate of stainless steel with its central portion cut out, its periphery

following the outline of the pen. A frequent defect has been that pen points have been loose in the pen section; test carefully for this before purchase.

R. H. Macy & Co., N.Y.C. (Marked on gold pen.) $1.98. Chilton type of filler. 14-carat gold pen, "iridium" tipped.

*Vari-Tone* (Distrib. R. H. Macy & Co., N.Y.C.) 94 cents. Desk-stand type. Neat, simple, fairly good.

*Wasp Vacuum-Fil.* 69 cents. "Iridium" tipped gold pen. Top is twisted to fill. Not fully satisfactory, but in the gold-pen class, good value at its price

*Wearever,* Cat. No. 57—7687. (Distrib. Montgomery Ward & Co.) 21 cents plus postage. Well-finished, cheap, lever-filling pen.

*Chilton* (Chilton Pen Co., Long Island City, N. Y.) Nibs not of the best; smooth ones may be found. Has changed design several times.

*Sheaffer Feathertouch* (W. A. Sheaffer Pen Co.) $5. "Iridium" tipped gold pen, reversible point. Pump-filled, visible ink supply.

*Wahl Eversharp* (The Wahl Co., 1800 Roscoe St., Chicago) Ink capacity fair. Nibs generally good. Good finish, good guaranty.

# Mechanical Pencils

WHEN buying mechanical pencils in any price class, watch the following: (1) Buy only those pencils which take the standard thin-size led. (.045 inches diameter). Otherwise a pencil may turn out to be practically useless. (2) Any pencil which has to be unscrewed in the middle in order to get at the eraser will be unhandy. (3) Leads should fit very snugly without the least wabble; the mechanism and joints should feel firm

when pushed from the side. (4) There should be adequate storage space for extra leads, especially for those pencils using the short 1¼ to 1½-inch leads. (5) The clip should have enough clearance so as not to wear unnecessarily the fabric to which it is attached but should be stiff enough to hold the pencil in place; the ball-ended type of clip is to be preferred. (6) The part near the point of some pencils is so bluntly tapered as to be unpleasant to hold, particularly with the larger diameter pencils. (7) Some pencils are so short that the clip is in the way when the pencil is in use; weight is also a factor to be considered, as a heavy pencil, satisfactory at first, is tiring when used for a long period of time. (8) Pencils with gadgets, such as cigaret lighters, attached, are apt to be failures as pencils.

### Recommended

*Scripto* 4-47 (Scripto Mfg. Co., Atlanta) 15 cents. 4-inch leads. No storage space. Clip detachable. Extra leads and erasers furnished with pencil.

*Realite* (Autopoint Co., 1801 W. Foster Ave., Chicago) 24 cents. Essentially equivalent to *Autopoint* immediately below.

*Autopoint* (Autopoint Co.) 28 cents. 1.5-inch leads. Forward movement of leads such as to give a sensitive adjustment of the lead; mechanism excellent, ensuring perfect fit of leads.

*Autopoint* S 76 (Autopoint Co.) 39 cents. 1.4-inch leads. A big pencil, but well made.

*Eversharp,* No. 4 (The Wahl Co., 1800 W. Roscoe St., Chicago) 47 cents. 4-inch square leads. Square barrel, easy to hold.

# Men's Shirts

ON the basis of tests, Consumers' Research believes it best generally to buy shirts with collars one inch larger by *actual measurement* (from the thread of the button to the center of the buttonhole, or from center to center of buttonholes for collarless shirts) than the actual neck size. (Those to whom comfort is of much greater importance than style may want to increase the allowance to one and one-half inch.) Even the better shirts will commonly measure (before first washing) as much as one-third inch more than labeled size, but the poor shirts may be as much as three-fourths inch larger than this size. It should be remembered that about three-fourths of the total shrinkage occurs in the first laundering.

Nine of the shirts tested had fused or Trubenized collars; all of these "improved" collars failed after a comparatively few launderings. On the other hand, shirts with regular or old-fashioned collars withstood, on the average, three times as many launderings. The test makes it quite evident that the new fused collars are a long way from providing satisfactory service however much they may add in the way of pleasing appearance. Indeed, the finding showed that none of the shirts with fused or Trubenized collars that were tested were found to merit a recommended rating.

Of twenty shirts tested, we find deserving of definite recommendation only the four which follow. These ratings refer to shirts with collars attached and are based on durability as determined by the number of launderings each shirt was able to withstand before failure (the shirts being worn one day between launderings), shrinkage of collar, sleeve, and body, and tensile strength, but primarily on the durability and collar shrinkage.

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RECOMMENDED

*Arrow-Gordon* (Cluett, Peabody & Co., Inc., Troy, N. Y.) $1.95. *Sanforized Shrunk.* White oxford cloth; regular collar. Shrinkage resistance of collar excellent, although sleeve shrank. Durability very good.

*Arrow-Trump* (Cluett, Peabody & Co., Inc.) $1.95. *Sanforized Shrunk.* White broadcloth; regular collar. Shrinkage resistance excellent. Durability very good.

*Real Silk* (Real Silk Hosiery Mills, Inc., Indianapolis) $2.75. White broadcloth; regular collar, adjustable by means of two buttonholes side by side. Shrinkage resistance excellent. Durability very good.

# Men's Socks

THREE important factors that make for long life in men's socks are proper reinforcements of toe, heel, and region just above the heel (called the "high splice"). Men's hose, like women's, should be half a size longer than the foot; if the hose are too short, holes will appear in the toe in short order. Wool hose, particularly, should be purchased in a larger size than ordinarily worn, since, no matter how carefully laundered, they will shrink enough to be troublesome and will then perhaps become so uncomfortable that they cannot be worn.

The most economical socks are those costing about thirty-five cents, or three pairs for a dollar. Cheaper socks were found in tests conducted by Consumers' Research to be far less durable than the middle-priced socks. The more expensive ones were superior to the thirty-five-cent socks mainly in less tangible qualities, such as finish and appearance.

An elastic rim or ring woven at the top of some socks

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for support without the use of garters is judged less satisfactory than the type having a separate one-inch elastic band attached at two points.

Of twenty-one brands tested, we find only the eleven which follow to merit recommendation. Ratings are based on an abrasion test of the toe, heel, and high splice of each sock run on the wear-testing machine specially designed by Consumers' Research.

### Recommended

*Korker,* Cat. No. 86—305 (Distrib. Sears, Roebuck & Co.) 35 cents per pair plus postage. Silk. Resisted abrasion very well.

*Magic Buyer* (Distrib. W. T. Grant Co. stores) 35 cents per pair. Silk. Comparatively heavy weight. Resisted abrasion very well.

### Qualified Recommendation

*Apollo* (Distrib. S. H. Kress & Co. stores) 25 cents per pair. Silk.

*Hanover* (Penbrook Knitting Co., Harrisburg, Pa.; distrib. Hanover shoe stores) $1 for three pairs. Silk.

*Wards,* Cat. No. 30—645 (Distrib. Montgomery Ward & Co.) 33 cents per pair plus postage. Silk. Resisted abrasion very well. Amount of shrinkage considerable so as to require purchase of one-half size larger than ordinarily worn.

*Interwoven* (Interwoven Stocking Co., New Brunswick, N. J.) 50 cents per pair. Silk.

*Interwoven Nu-Top* (Interwoven Stocking Co.) 50 cents per pair. Rayon. Elastic top.

*Wards,* Cat.No. 30—695 (Distrib. Montgomery Ward & Co.) 49 cents per pair plus postage. Silk. Full-fashioned. Resisted abrasion very well. Amount of shrinkage considerable so as to require purchase of one-half size larger than ordinarily worn.

*Esquire* (Distrib. Weber & Heilbroner stores) $1 per pair.

Silk. Full-fashioned. Garters attached.

*Interwoven* (Interwoven Stocking Co.) 75 cents per pair. Silk.

*Real Silk,* Style No. 55 (Real Silk Hosiery Mills, Indianapolis) $1.25 per pair. Silk.

# Men's Garters

CONSUMERS' RESEARCH has had a test made of thirteen well-known brands of men's garters. The scope of the test included an examination to determine the amount and kind of rubber in the different garters and an aging test to determine the relative life of their elasticity or rubberiness in each case. Various parts of the garters were examined to determine their materials, construction, and quality of workmanship. Personal preferences will, of course, vary widely with respect to the type of fastener, width of elastic, color, and kind of garter used. These factors have not been taken into consideration in these ratings. On them, the average male consumer will wish to rely in the main upon his own judgment and past experience. The prices given are the prices at which the garters were purchased in various retail stores for test.

### Recommended

*Paris Extra Long Stretch* (A. Stein & Co., 330 W. 34 St., N.Y.C.) 34 cents. Elastic was one of the two highest in rubber content. Garter fastener pin secured in pad of sateen backed with twill. Sock supporter pin had rubber cushion at point of contact with sock to avoid metallic contact with fabric. Materials of fastener pad and supporter not so good as corresponding parts of *Condor Tear-Drop.* Length of elastic slightly under the average length of the group tested.

*Paris Miracle Elastic* (A. Stein & Co.) 34 cents. Rubber content of elastic not quite so high as the three other "recommended" brands. Fastener pad faced with leather, cotton twill back. Garter same as *Paris Extra Long Stretch.*

*Condor Tear-Drop* (Condor Products, Inc., 315 Niagara Buffalo, N. Y.) 50 cents. Elastic was one of the two highest in rubber content. Riveted brass garter fastener pin in leather pad with suede fabric backing and brass clasp.

*Hickok Scots' Guard* (Hickok Mfg. Co., Rochester, N. Y.; distrib. Weber & Heilbroner, Inc., N.Y.C.) 50 cents. Elastic very narrow, but rubber content good. Garter fastener pin and clasp of celluloid, lightweight and cool.

### Qualified Recommendations

*Wards,* Cat. No. 35—1251 (Distrib. Montgomery Ward & Co.) 24 cents plus postage. Rubber content, good. Fastener pad of very poor materials. Workmanship, poor.

*Hickok Style Leadership* (Hickok Mfg. Co., distrib. John David, Inc., 32 St. & Broadway, N.Y.C.) 50 cents. Elastic very extensible or "stretchable." Rubber content, average. Fastening hard to close, not secure, believed unsatisfactory.

*Pioneer Comfo Web* (Pioneer Suspender Co., 315 N. 12 St., Philadelphia) 50 cents. Double hose-supporter type. Total rubber content of elastic, low. Fastener pads faced with leather, backed with chamois cloth. Well made; materials good.

*Polo* Garters (A. Stein & Co.) $1.20. Rubber content of elastic not so high as garters rated "recommended." Fastener pad of sateen, cambric backing. Workmanship, good.

# Safety Razors

THERE are a number of dimensional errors present in all razor designs. Often these errors are cumulative and cause unsatisfactory shaving performance. Some razors are so bad in this respect that the defect can readily be observed with the naked eye; the user should, therefore, have the possibility of this defect in mind before coming to a decision as to the unsatisfactory quality of any razor blades. This defect is more likely to be a problem with the double-edge blade and holder than with the single-edge type.

While the primary considerations of a safety razor and blade are ease and safety in shaving, no razor has a right to be rated better than the blades which can consistently be procured for use with it. Thus some razors could not be *Recommended* since no blades suited to these types of razors could be found that were worthy of recommendation. (For listings of *Recommended* razor blades, see pages 42-43 of the November, 1937, *Consumers' Digest.*)

### Recommended

*Durham Duplex,* Model No. 6, "hoe" type (Durham Duplex Razor Co., Jersey City, N. J.) 25 cents with one blade.

*Durham Duplex,* Model No. 18 (Durham Duplex Razor Co.) 25 cents. This razor is patterned after the straight razor as used by barbers; thus, subscribers, unless they have skill in use of a straight razor, may experience some difficulty in its use.

*Gem Micromatic* (Gem Safety Razor Corp., Brooklyn, N. Y.)

*Gillette,* Old Style (Gillette Safety Razor Co., 15 W. 1 St., Boston) This type of holder can be used either with

longitudinal slotted blades or those having three round holes in a row. Since Gillette no longer manufactures this particular model, it may be necessary for those who prefer it to purchase a similar design in another make.

*New Gillette* (Gillette Safety Razor Co.) Note: old *Gillette*-type blades with three holes will not fit this razor.

*Valet AutoStrop* (Gillette Safety Razor Co.)

*Weck Junior* (Edward Weck Co., Inc., 206 Broadway, N.Y.C.) $1 with one blade. This razor is somewhat like a straight razor except that the guard has to be reversed to shave opposite sides of the face. Some risk of injury in changing blades. Same difficulty in use as the *Durham Duplex,* Model No. 18, if the user is unaccustomed to a straight razor.

*Schick Injector* (Magazine Repeating Razor Co., 230 Park Ave., N.Y.C.) $1.50 with twenty blades. This razor can be used only with *Schick Injector* blades.

# Electric Shavers

THOSE who buy an electric razor in the high expectations, that have been provided in the advertising, of being enabled to whisk away the morning whiskers with a few easy, effortless strokes are likely to be quite disappointed during and after the first shave. They may even be more or only slightly less disappointed after a few weeks of electric shaving—depending on whether the shaver of their choice is a good one and whether their beard and skin are suited to the results produced by this kind of shaving. For using an electric shaver is not a wholly blithe, pleasurable procedure, giving quick, clean, close shaves as the advertising depicts. Very few users have found that they could shave as close as with even a mediocre blade razor; to shave at all decently in the same length of

time as with a blade razor, the user must become quite expert, and if the shaver is not a first-rate one, he may never achieve quick and easy shaving with an electric shaver. These conclusions have been corroborated by reports from a considerable number of users, the sum of which indicates that a fair percentage of electric razor users will find their performance wholly disappointing. The knack of handling the shaver to get good results quickly must be acquired by not only practice, but by observation of the peculiarities of one's beard, a matter which may not be disposed of completely even after several months' use. For some men, especially those with sparse or light colored beards, the electric shave may be good enough for the ordinary everyday shave, but for many others it is quite certain that it will not pass muster, especially for an "evening dress" shave.

Nevertheless, there is evidently a large number of men who will find the electric shaver a boon, because their tender skin makes blade shaving an ordeal. To these, the less perfect shave obtained is perhaps more than balanced by the elimination of skin irritation, although it is possible that in some cases the shave obtained may be closer than the tenderness of one's skin would permit with a blade razor. One should not be too optimistic about being freed from the bugbear of skin soreness, however, because some makes of shavers are characterized by a decided ability for chafing the skin, leaving it red and smarting, a fault which is entirely absent in other makes. This fault is, moreover, not confined to the cheaper shavers, in which it might be expected as the result of less perfect finishing of the working surface.

The electric shaver gives noticeably improved results when the face is slightly moist with perspiration, or after washing. Taking advantage of this effect, probably, is the new Pinaud preparation *Set-Up,* optimistically advertised

as revolutionizing the oh-so-recently revolutionized methods of shaving electrically.

At best there is a special hazard of electrical shock that must be considered with any electrical appliance used in the bathroom.

Of seven electric razors tested only two were found to be worthy of a recommendation, and for the present and depending upon reports of defects, conscientiousness of manufacturers in fulfilling of guarantees, and other important factors, that recommendation can only be a qualified one.

QUALIFIED RECOMMENDATIONS

*Schick Shaver,* Model S (Schick Dry Shaver, Inc., Stamford, Conn.) $15. While the quality of the shave obtained with this razor is generally inferior to that to be had with a good safety razor, it is evident from subscribers' comments that the *Schick* will often be satisfactory to those who have tender skins and who dislike lathering the face. It is necessary, however, to emphasize a fact already brought out—that it takes some time and trouble to acquire the correct technique in the use of even the best electric razor.

*Nicholl Velvet* (Nicholl, Inc., 766 E. 12 St., Los Angeles) $17.50. Performance judged as practically indistinguishable from that of *Shick Shaver.*

# Electric Toasters

AUTOMATIC toasters, which cost much more, are more likely to toast evenly than non-automatic toasters; but they also cost fifty per cent more on the average to operate. Avoid any design of toaster which permits the hot doors, when open, to come into contact with the table top, and be sure the size of bread slice which the

toaster will handle is as big as the slice cut from the kind of loaf used. A switch on the toaster or on the plug at the toaster is very desirable.

In the test reported, all toasters of the automatic type toasted both sides of two slices of bread at the same time. All those of the non-automatic type toasted two slices, one side at a time, and turned the toast by the "flip-flop" method.

### Non-Automatic Toasters

#### Recommended

*Proctor Turn-O-Matic,* Cat. No. 1453 (Proctor & Schwartz Electric Co., Philadelphia) $2.95. 110-120 volts. Made toast relatively quickly, economically, and evenly.

#### Qualified Recommendation

*Manning-Bowman,* Cat. No. 78 (Manning, Bowman & Co., Meriden, Conn.) $2.95. 110-120 volts. Well made. Medium speed of toasting. The toasting was uneven.

Montgomery Ward & Co., Cat. No. 86—5117 (Electrahot Mfg. Co., Mansfield, Ohio) $1.37 plus postage. 110-120 volts. Made toast relatively quickly and economically but unevenly. No means to shut off current at toaster.

### Automatic Toasters

#### Recommended

*Toastmaster,* Cat. No. 1B6 (McGraw Electric Co., Minneapolis) $16. 115 volts. Operates on alternating current only. Well made, performance very good.

#### Qualified Recommendation

*Heatmaster* De Luxe, Cat. No. 20 D 694 (Utility Electric Co., St. Louis; distrib. Sears, Roebuck & Co.) $7.95 plus postage. 115 volts. Operates on alternating or direct current. Ticking of the clockwork mechanism comparatively loud. Performance good.

*Manning-Bowman Automatic,* Cat. No. 108 (Manning, Bowman & Co., Meriden, Conn.) $11.95. 110-125 volts. Operates on alternating or direct current. Comparatively slow in operation. Performance good.

*Sunbeam,* Cat. No. T-1-C (Chicago Flexible Shaft Co., 5600 Roosevelt Rd., Chicago) $10.95. 110-120 volts. Operates on alternating or direct current. Relatively slow and expensive to operate. Performance good.

# Waffle Irons

### Recommended

*Toastmaster Waffle Baker,* Cat. No. 2D1 (McGraw Electric Co., Minneapolis) $12.50. 115 volts. Operates on alternating current only. Automatic temperature control. Overflow groove provided.

### Qualified Recommendation

*Proctor Heat Indicator Waffler,* Cat. No. 1520 (Proctor & Schwartz Electric Co., Philadelphia) $6.95. 110-120 volts. Operates on alternating or direct current. Non-automatic. Overflow groove provided.

*Heatmaster,* Cat. No. 20—1188 (Distrib. Sears, Roebuck & Co.) $4.45 plus postage. 110-120 volts. Operates on alternating current only. Automatic temperature control. No overflow groove was provided.

*Westinghouse,* Cat. No. WSA-14 (Westinghouse Electric & Manufacturing Co., Mansfield, Ohio) $9.95. 115 volts. Operates on alternating current only. Automatic temperature control. Lacked overflow groove.

*Wards* Standard Quality, Cat. No. 86—5139 (Electrahot Manufacturing Co., Mansfield, Ohio; distrib. Montgomery Ward & Co.) $4.45 plus postage. 110-120 volts. Operates on alternating current only. Lacked overflow

groove. Automatic temperature control. Did not meet a recognized standard safety requirement for electrical insulation (there was an initial "flashover" in the cord plug at 500 volts; but subsequently satisfactory).

*Manning-Bowman,* Cat. No. 1646 (Manning, Bowman & Co., Meriden, Conn.) $5.95. 110-120 volts. Operates on alternating or direct current. Non-automatic. Overflow groove provided. Waffle baking uneven.

# Miniature Cameras

THE candid cameras, or "minicams" as they are now affectionately or otherwise called, have made rapid gains in the last few years. It has been estimated that there are at least 100,000 of these small but expensive instruments in the United States today, and this number is rapidly increasing. Until recently, the minicams were so costly that only the well-to-do could afford to buy these diminutive cameras and their expensive accessories.

For the amateur who wants only to "push the button" and be sure of as good a picture as possible for a minimum of effort, miniature cameras are decidedly not recommended. This will also apply to any amateur who does not do his own printing and developing work, unless he can afford to pay for very special developing skill and care, and perhaps send his films away to a distant city to be developed and enlarged. For the advanced photographic amateur with whom photography is a serious hobby, the miniature camera must be approached from a different viewpoint, and for such fans there are now a number of miniature cameras which offer fine workmanship and flexible, competent operation. This, however, does not mean that a miniature camera can take the place of a real honest-to-goodness 2¼ x 3¼-inch or 3¼ x 4¼-inch plate or film pack camera

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(these are the preferred camera sizes for amateur picture-takers—not the snapshooter or novice), even though its owner may be the proud possessor of the three hundred and thirty-odd accessories or gadgets which one make has available. These gadgets, it may be said, all cost money.

Because of the relatively small size of the pictures taken with these cameras, any minute damage to the film surface, one hardly visible except under a lens, will become prominent or ruinous owing to its magnification in the enlargement. The greatest possible success with miniature cameras is obtained only by careful handling of the camera and the film, and attention to detail which it calls for. The camera should be held perfectly steady at all times when exposures are being made and focused as sharply as possible. It is a matter of special difficulty to hold a small camera steady because its small weight gives it a tendency to move through a much wider arc in relation to the picture with movement of the body or vibration than does a camera of ordinary size.

Miniature cameras have certain advantages which have made them popular. They are small in size and light in weight, unless you equip yourself with the accessories and their various cases, etc., which their makers recommend. They are versatile too, and in that respect they are the match of other much heavier cameras and camera outfits that have a large capacity for many different types of work. For some, they are economical to operate, particularly if film is purchased in rolls of fifty or fifty-five feet instead of thirty-six exposures or about five and one-half feet.

The miniature camera situation can be adequately summed up in the words of a former minifan: "I have no quarrel with *Leitz* or *Zeiss* or other miniatures. I simply prefer, as more would if they thought the matter out, more camera for the money. An amateur wants a pocket camera, but should he pay as much for it as he does for a good secondhand car?" We agree with this correspondent

on the assertion and on his question. But for the fans who have the money to spend and have the desire to experience the thrills of minicamania, we present the following listings. But don't believe all you hear about them—not even what minicam enthusiasts tell you about them. People who write advertising and publicity for the miniature camera business have written a lot of lure into their copy of late and the camera business which used to be sober and solid and factual, like surgical instruments or time and temperature recorders for industrial applications, has now developed a good many other qualities of the cosmetic trade and the automobile business. If money is a problem, be sure you don't plunge, or plunge a friend to whom you may have decided to give a miniature camera as a gift, into the minicam adventure until it is known how much it is likely to cost to get out, else one is likely to go downtown some Saturday afternoon and spend the money the wife thought was going to provide the old car with four new tires, a battery, and a coat of paint, or the wife with a fur coat, and come home with only a number of accessories, perhaps a few of the available assortment of interchangeable lenses or an enlarger.

### Recommended

*Baldina* (Balda-Werk, Dresden; distrib. Photo Utilities, Inc., N.Y.C.) $43 with *Trioplan* f/3.5 lens; $45 with *Trioplan* f/2.9. The shutter is the high-grade *Compur*. Shutter speeds 1 to 1/300 second.

Can be recommended for pictures at close range only when used in conjunction with separate hand-held range-finder enabling the user to set the focus of the lens accurately. Uses standard 35 mm film. Negative sixe 24 x 36 mm (1 x 1½ inches approximately).

*Bantam Special* (Eastman Kodak Co., Rochester, N. Y.) $110. Kodak Anastigmat *Ektar* f/2 lens. Shutter *Compur*. Shutter speeds 1 to 1/500 second, time, and bulb. Has an attached range-finder, built-in type. Has the dis-

advantage of using only special film Kodak type 828 which limits choice of emulsions and increases cost of operation for film to about 2½ times as compared with standard 35 mm film bought in 50 foot lengths. Negative size 1⅛ x 1 9/16 inches.

*Contax,* Model I (Carl Zeiss, Inc., 485 Fifth Ave., N.Y.C.) $145 with *Carl Zeiss Tessar* f/3.5 lens; $163 with *Carl Zeiss Tessar* f/2.8; $190 with *Carl Zeiss Sonnar* f/2; $277 with *Sonnar* f/1.5. Shutter speeds ½ to 1/1000 second. Has an attached range-finder, built-in type. For some users, this camera will be preferable to the *Leica,* on account of its removable back which permits the use of a ground glass for focusing (valuable for certain types of precise work). Uses standard 35 mm motion picture film. Negative size 24 x 36 mm.

*Contax,* Model II (Carl Zeiss, Inc.) $188 with *Carl Zeiss Tessar* f/3.5; $206 with *Carl Zeiss Tessar* f/2.8; $233 with *Carl Zeiss Sonnar* f/2; $320 with *Carl Zeiss Sonnar* f/1.5. Shutter speeds ½ to 1/1250 second. Built-in range-finder and view-finder combined in one opening which obviates shifting from range-finder to view-finder.

*Leica,* Model G (Ernest Leitz, Inc., 60 E. 10 St., N.Y.C.) $168 with *Elmar* f/3.5 lens; $213 with *Summar* f/2. Shutter speeds 1 to 1/1000 second. Built-in range-finder. A fine, compact mechanical job of very precise workmanship (believed to excel the *Contax* in this respect) and fine, highly developed design. Uses standard 35 mm film. Negative size 24 x 36 mm.

*Retina* (Eastman Kodak Co.) $57.50 with *Ektar* f/3.5 lens. Shutter *Compur.* Speed 1 to 1/500 second, time, and bulb. The comments under *Baldina* respecting the need for use with a hand-operated range-finder apply also to this model. Uses standard 35 mm film. Negative size 24 x 36 mm.

# Cigarette Lighters

IN this country where matches are given away free with every purchase of cigarettes and tobacco, it is perhaps doubtful if many men purchase cigarette lighters for their own personal use. This may be due to the fact that for some users they will actually be rather less convenient than matches, inasmuch as they require frequent refilling, and from time to time, replacement of the stick of pyrophoric metal, commonly called a "flint". To be sure there is one type of cigarette lighters available which does not require flints, but operates on an entirely different principle, lighting by a physical-chemical reaction, without mechanical action or toothed wheel abrading a metal stick. These non-mechanical lighters, however, use the deadly-poisonous methanol (wood alcohol), as a fuel, and some have other features that make them unsafe or undesirable to use.

We surmise that most owners of cigarette lighters have come into possession of them as gifts, and there is no doubt that they make a suitable Christmas luxury for the person (if he or she is a smoker) for whom it is difficult to choose a suitable gift, that will be useful, but not too utilitarian. Consumers' Research feels, however, that although the thought behind the gift may be more precious than the gift itself, the recipient would be much happier to receive a gift in the form of a cigarette lighter which really works, and can be relied on to go on working for a fairly long time, than to receive one that refuses to function, or functions only intermittently, or sometimes. With this end in view, Consumers' Research has made tests of seven brands of cigarette lighters, which comprise an endurance or repeated-lighting test, and a critical engineering examination. Some of the lighters were so poorly designed that it was, almost at a glance, obvious that they would fail in the endurance

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test. Others had such sharp corners that they were distinctly unpleasant to handle and to operate, and would almost inevitably ruin any pocket in which they were kept. Of the seven lighters tested, the following are *Recommended.* All used non-leaded gasoline, or petroleum naphtha as fuel. (Care should be taken in refilling lighters that automobile gasoline, now more often leaded than not, is not used. Stove or pressure-lamp gasoline, often known as "white-gas", will serve.) It is reasonably certain that the purchaser of any of the following recommended lighters will not find it necessary to follow the advice of one manufacturer who stated in his advertising folder of his product,

What to Do if———Fails to Light

1. Make sure wick contains sufficient fluid.
2. Unscrew cap and leave lighter open for half hour, or hold it upside down over lighted match.

The *New Yorker* in quoting this, wittily added, postscript wise, "If *match* fails to light, hold *it* over two sticks rubbed together."

RECOMMENDED

*Evans Trig-A-Lite* Cat. No. 4-5574 (Distrib. Sears, Roebuck & Co.) 79 cents plus postage. Chromium plated. Well designed and made. Cat. Nos. 4-5594 at 98 cents, and 4-5595 at $1.98, appear to be identical in construction, except for design of case, which in no way affects efficiency of the lighter. This and *Ronson* seemed to be the best buys of the group tested.

*Ronson Princess* (Art Metal Works, Inc., Newark, N. J., distrib. Montgomery Ward & Co.; Cat. No. 45-6802) $2.98 plus postage. First lighter purchased refused entirely to function, having evidently slipped by factory inspection. Replacement, however, was fully satisfactory. Well designed and made. Similar in operation to *Evans Trig-A-Lite.*

*Zippo* (Zippo Mfg. Co., Bradford, Pa.) $2. Well made and finished. A lighter of the old reliable rub-the-thumb-

wheel. Has perforated hood around the wick, which allows it to be used satisfactorily out of doors, or in a strong draft.

QUALIFIED RECOMMENDATIONS

*Corona* (Alfred Dunhill of London, Inc., British Empire Bldg., N.Y.C.) $6. Silver plated. Long narrow type, deemed more suitable for lady's handbag than a man's pocket. If manufacturer's instructions are followed, and lighter operated by one hand, a certain possibility of burning thumb exists. Not a good lighter for an absent-minded professor.

*Long Wafer* (Alfred Dunhill of London, Inc.) $10. Silver plated. Well made, but hard on the thumb to operate. Price considered unwarrantedly high, compared with *Ronson* and *Evans Trig-A-Lite*.

# Playing Cards

PLAYING cards are an item perhaps quite frequently purchased by the average consumer, and to a few the outlay may be actually very noticeable in the budget and the expense per annum may run comparably with such items as radio servicing and gardening tools. Therefore, on this item of expense, it was interesting to discover whether the cards customarily purchased were as durable as they should have been and how large was the difference between good cards and poor ones; also to get some clue as to the problem of the relation between quality and price. The test succeeded in indicating definitely whether the various brands of cards would retain their fresh appearance and desirable handling qualities for a reasonable period of use.

Of the various factors influencing the price to the con-

sumer, the quality and finish of the pasteboard used have by far the most important bearing on the durability of the card; the other factors, such as the printing (including the design on the back), packaging, distribution cost, and the internal revenue tax of ten cents per pack—most of which have no bearing at all on the wearing or handling qualities—form a large proportion of the cost, probably outweighing the cost of the pasteboard and its finish in setting the final price. Somewhat less relationship between price and quality may be expected in playing cards than in most kinds of consumers' goods, and just about this was found in the test, the exception being that decks selling for twenty-five cents and less were found to possess quite uniformly poor durability as compared to those selling at higher prices.

If durability were the only factor involved, a conclusive test of playing cards would be relatively simple, but there are numerous other intangible factors. Their shuffling and dealing properties, springiness or "flip," and the way these qualities are lost with use, etc., would be very difficult to reduce to practical determinations, representing or simulating the effect of these factors in actual use of the cards. Springiness or "flip," however, was determined by micrometric measurement of the deflection of single cards under a small predetermined load. The present test was confined mainly to the qualities of the pasteboard and its finish, including resistance to tearing, bursting strength and folding or bending endurance. Evaluation of the handling properties, by determinations of the frictional qualities (or resistance to sliding of one card on another), of the cards were made, as well as a comparison of their stiffness, both of which influence their performance in shuffling and dealing. Stiffness also had a relation to the wearing qualities, in that the least rigid cards were definitely the ones most subject to damage in the wearing test. Very stiff cards,

however, shuffle and riffle less easily, and in general are handled with less facility and speed.

The most vulnerable point in playing cards is the corners, which eventually split in service by the separation of the laminations of the pasteboard, increasing the thickness. This, in turn, interferes seriously with shuffling and dealing, and of course spoils the appearance. A test was devised to determine the resistance of the cards to this type of failure. Four cards from each brand were placed in a long sealed container which was quickly inverted, and shaken while the cards were falling from one end to the other of the container. This process was repeated fifty times and also a further fifty times without shaking. Two cards of each tested lot were given an additional test of one hundred operations of this type after examination of the first wear test results.

It was not found practicable to develop means for simulating the soiling conditions of actual use. Cards seem to soil principally by adherence of picked-up dust and dirt to rough spots, cracks, and areas which have been exposed to the perspiration of the hands. Resistance to the effects of perspiration was investigated by a water immersion test, which also produced varying degrees of warping and loss of finish in most cards. Examination of decks which had been in use for some time showed that the "linen-" or cambric-finished cards manifested more evidence of soiling than the smooth-finished ones. In addition, the ridges of the "linen" finish evidently tend to make the cards more susceptible to the development of a worn appearance after use.

The twelve brands of cards tested were ranked on the basis of their performance in the tests previously mentioned, and on a general critical examination for quality of printing and finish of surface and edges.

RECOMMENDED

*Bicycle,* No. 808 (U. S. Playing Card Co., Cincinnati; distrib. Liggett's Drug Stores, 39 cents; distrib. Montgomery Ward & Co., Cat. No. 57—8637, 42 cents plus postage; distrib. Sears, Roebuck & Co., Cat. No. 3—6906, 39 cents plus postage). Wearing properties, good. Had the "linen" finish, which, as has been noted, is more subject to soiling than a very smooth finish.

*Congress* (U. S. Playing Card Co.; distrib. Montgomery Ward & Co., Cat. No. 57—8619; distrib. Sears, Roebuck & Co., Cat. No. 3—6909) 48 cents plus postage. Most durable cards of the eleven brands of the ordinary or pasteboard type tested.

*Gainsborough* (E. E. Fairchild Corp., Rochester, N. Y.) $1 for 2 decks. Wearing properties, good; durability when subjected to bending, slightly inferior to that of other "recommended" brands. Had "linen" finish, which, as has been noted, is more subject to soiling than a very smooth finish.

*Kem* (Kem Playing Cards, Inc., RCA Building, N.Y.C.) $3. The only cards tested not made of pasteboard. Wearing properties, far superior to those of the other makes tested. Will withstand extreme abuse. Smooth finish; washable and impervious to moisture and grease. Workmanship and quality of finish excellent. Because of the material of which these cards are made (a substance similar to cellulose acetate), they are particularly susceptible to cumulating a charge of frictional electricity, which causes them to come to a stop quickly when "sailed" across a table. Considerably easier to shuffle, riffle, and deal than the pasteboard type. Those who use cards a great deal may find these more economical over a period of time than the several decks of ordinary cards which would probably have to be purchased for the same amount of service. This type of cards should be offered much more cheaply as the market

expands, and as the manufacture and distribution are widened, and quite likely if commercial reasons did not intervene, could readily be sold at prices comparable with the better grades of pasteboard cards.

QUALIFIED RECOMMENDATION

*Arrco* (Arrco Playing Card Co., Chicago) 25 cents. Wearing properties and durability when subjected to bending, fair. Smooth finish.

*Bee,* No. 92, Club Special. (Consolidated Dougherty Card Co., Inc., Div. of U. S. Playing Card Co., 385 Gerard Ave., N.Y.C.; distrib. Liggett's Drug Stores) 48 cents. Wearing properties, fair.

# Candy

IN a country where the use of sugar runs to ten or twenty times the amount that should be consumed, the answer to the question "What candy shall I buy for Christmas?" should be none at all, *if* you can persuade the persons concerned that the eating of candy, especially in large lots as candy is eaten at Christmas, is not to their best interest. The Christmas season, however, has a relaxing effect on most resolutions to be careful of one's health in the matter of eating and drinking. For the benefit, therefore, of those who *will* buy candy because their friends want it and are going to consume it anyway, we list a number of brands that have been tested by Consumers' Research.

**Chocolates**

RECOMMENDED

*Fanny Farmer* (Fanny Farmer Candy Shops, Inc., 83 Clifton Pl., Brooklyn, N. Y.) 60 cents per pound assorted chocolates. First choice on basis of taste. Chocolate covering of average thickness.

Adapted from Consumers' Research *Bulletin*. September, 1937

*Schrafft's* Chocolate Covered Creams, Hand Rolls (W. F. Schrafft & Sons Corp.) 80 cents per pound. Second choice on basis of taste. Chocolate covering of average thickness.

*Shoot* (Shoot Chocolate Co., 419 High Ave., Cleveland) $1 per pound, assorted chocolates. Third choice on basis of taste. Chocolate covering greater than average thickness.

**Caramels**

RECOMMENDED

*Fanny Farmer*. 60 cents per pound. First choice on taste.

*Kraft* (Kraft-Phenix Cheese Corp., Chicago) 5 cents for two ounces. Second choice on taste.

*Loft* (Loft, Inc.) 29 cents per pound. Third choice on taste.

*Kresge* (Distrib. S. S. Kresge Co.) 20 cents per pound. Fourth choice on taste.

*Bunte* (Bunte Bros., Chicago) 10 cents for five ounces. Fifth choice on taste.

**Hard Candy**

RECOMMENDED

*Fanny Farmer*. 58 cents per pound. First choice on taste.

*Loft* American Mix. 34 cents per pound. Second choice on taste.

Kresge (Distrib. S. S. Kresge Co.) 15 cents per pound. Third choice on taste.

Woolworth (Distrib. F. W. Woolworth Co.) 20 cents per pound. Fourth choice on taste.

# Face Powder

THE base of face powder is usually talc, to which are added coloring matter, perfume, and substances possessing adhesive properties, such as zinc- or magnesium-oxide, or kaolin, to make it adhere to the skin.

The measure of good face powders is fineness and softness. It is also desirable that powders be free from starches, such as rice, wheat, and orris root, to which some people are unpleasantly sensitive.

All the face powders listed were tested for their mineralogical purity and fineness.

### Recommended

*Armand Cold Cream* Powder (The Armand Co., 124 Des Moines St., Des Moines)

*Harriet Hubbard Ayer's* (Harriet Hubbard Ayer, Inc., 323 E. 34 St., N.Y.C.)

*Chiffon* (Primrose House Sales Co., 400 Madison Ave., N.Y.C.)

*Coty* "Air Spun" (Coty, Inc., 423 W. 55 St., N.Y.C.)

*Drezma* (Drezma, Inc., 130 W. 42 St., N.Y.C.)

*Evening in Paris* (Bourjois, Inc., 35 W. 34 St., N.Y.C.)

*Max Factor's* (Max Factor & Co., 1666 N. Highland Ave., Hollywood)

*Faoen* (Park & Tilford, 485 Fifth Ave., N.Y.C.)

*Quelques Fleurs,* No. 676 (Houbigant, Inc., 539 W. 45 St., N.Y.C.)

*Lady Esther* (Lady Esther Co., 2012 Ridge Ave., Evanston, Ill.)

*Luxor* Complexion Powder (Luxor, Ltd., 1355 W. 31 St., Chicago)

*Marcelle,* Non-Allergic (C. W. Beggs Sons & Co., 1741 N. Western Ave., Chicago)

*Outdoor Girl* Olive Oil Face Powder (The Outdoor Girl, 4316 N. Kilpatrick Ave., Chicago)

*Pond's* (Pond's Extract Co., 60 Hudson St., N.Y.C.)

*Tangee* (The George W. Luft Co., 34-12 36 Ave., Long Island City, N. Y.)

### Qualified Recommendation

*Elizabeth Arden* (Elizabeth Arden, 681 Fifth Ave., N.Y.C.)

*Dorothy Gray* (Dorothy Gray Co., 683 Fifth Ave., N.Y.C.)
*Pompeian Beauty Powder* (The Pompeian Co., Bloomfield, N. J.)
*Helena Rubinstein* (H. R. Laboratories, Inc., 8 E. 57 St., N.Y.C.)
*Woodbury's Facial Powder* (Jergens-Woodbury Sales Corp., Cincinnati)
*Yardley Old English Lavender* (Yardley & Co., Ltd., 620 Fifth Ave., N.Y.C.)

# Cake Rouge

RED pigments for coloring the cheeks have been known for centuries. In the early days, rouge was made from red oxide of iron, red lead, and there was also a variety called *fucus,* believed to be derived from the root of a plant. Under present-day conditions of manufacture, rouge is usually colored with coal-tar dyes (see comment under *Lipstick*). On the whole, it is believed to be a safe cosmetic, although one authority states that there have been complaints from the use of gum acacia in binding the rouge into tablet form and that some perfumes have led to skin irritation.

Consumers' Research had a number of popular brands of the cake type of rouge examined by a professor in an Eastern college of pharmacy for orris root, rice starch, and dangerous metals such as barium and lead. All the cake rouges tested were entirely free from these substances and all, with the exception of Houbigant's *Rouge Carnation,* were found to contain coal-tar dyes, to which a small per cent of the population are sensitive. The approximate sizes of the cakes of rouge are given in ounces.

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RECOMMENDED

*Kissproof* (Kissproof, Inc., 4316 N. Kilpatrick Ave., Chicago) .085 ounce, 10 cents.

*Three Flowers* (Richard Hudnut, 113 W. 18 St., N.Y.C.) .18 ounce, 39 cents.

*Ybry* (Ybry, Inc., 516 W. 34 St., N.Y.C.) .10 ounce, 10 cents.

*Carrot* (Henry C. Miner, 12 E. 12 St., N.Y.C.) .13 ounce, 50 cents.

*Pompeian Bloom* (The Pompeian Co., Elmira, N. Y.) .13 ounce, 49 cents.

*Princess Pat* (Princess Pat, Ltd., 2701 S. Wells St., Chicago) .14 ounce, 50 cents.

*Rouge Carnation* (Houbigant, Inc., 539 W. 45 St., N.Y.C.) Refill of approximately .088 ounce, 55 cents for two refills.

*Max Factor's* (Max Factor, 1666 N. Highland Ave., Hollywood) .11 ounce, 50 cents.

*Outdoor Girl* (Crystal Corp., 130 Willis Ave., N.Y.C.) .12 ounce, 65 cents.

*Pastel No. 77* (Coty, Inc., 714 Fifth Ave., N.Y.C.) .092 ounce, $1.

# Cream Rouges

ESSENTIALLY, paste rouge is a vanishing cream or a foundation cream with added coloring matter. A typical formula contains lanolin as one of its ingredients.

A survey of the small amount of literature in this field would indicate that the chief known sources of irritation from the use of common rouge result from metallic impurities in the pigments and from some obscure chemical re-

action or combination of certain ingredients. Tests were made for Consumers' Research on a number of well-known brands for the presence of lead, arsenic, and mercury. The tolerance set (which must be regarded as tentative) was 100 parts per million; all brands satisfactory met this tolerance. The present state of knowledge of the characteristics of cream rouges does not permit any very positive judgments regarding their suitability and safety, especially in view of the fact that it is known that there is some likelihood that interaction of some of the ingredients used may cause skin difficulties. Chemical and toxicological knowledge do not yet suffice to resolve the complex questions raised by these products. Consumers' Research has received a number of reports of irritation from the use of lipstick (which has essentially the same composition as cream rouge). Partly on this account and partly on account of considerations just mentioned, all the cream rouges tested are given a *Qualified Recommendation.*

QUALIFIED RECOMMENDATION

*Armand* (The Armand Co., 124 Des Moines St., Des Moines, Iowa) 39 cents.

*Barbara Gould*, Brilliant No. 452 (Barbara Gould Sales Corp., 35 W. 34 St., N.Y.C.) 85 cents.

*Dorothy Gray* (Dorothy Gray, 683 Fifth Ave., N.Y.C.) $1.25.

*Drezma* (Drezma, Inc., 130 W. 42 St., N.Y.C.) $1.

*Elizabeth Arden*, Printemps (Elizabeth Arden, 691 Fifth Ave., N.Y.C.) $1.07.

*Elmo*, Dawn (Elmo Sales Corp., Hunting Park Ave. at 21 St., Phila.) 50 cents.

*Evening in Paris*, Koral (Bourjois & Co., Inc., 35 W. 34 St., N.Y.C.) 31 cents.

*Harriet Hubbard Ayer*, No. 1 (Harriet Hubbard Ayer, Inc., 317-323 E. 34 St., N.Y.C.) 55 cents.

*Helena Rubinstein*, Red Geranium (Helena Rubinstein, Inc., 8 E. 57 St., N.Y.C.) $1.

*Marcelle* (C.W. Beggs Sons & Co., 1741 N. Western Ave., Chicago) 50 cents.

*Primrose House*, Pomegranate (Primrose House Sales Co., 400 Madison Ave., N.Y.C.) $1.12.

*Tangee* (The Geo. W. Luft Co., 36 Ave. & 35 St., Long Island City, N. Y.) 55 cents.

# Lipstick

LIPSTICK has been in general use for such a comparatively short time that little information about its effects on the skin tissues has been accumulated. It is, therefore, impossible to be sure as yet whether or not there is anything potentially unsafe in its continuous use. Basically, lipsticks are a combination of waxes and fats, which may be of some value in lubricating the lips and preventing them from chapping. Some users may react unfavorably to the aniline or coal-tar dyes used. Very little is known about the action of these dyes on the human body, except that some people are particularly sensitive to them and experience unpleasant effects from their use, even in so presumably innocuous a form as "certified food colorings." Irritation has also been found to be caused by a perfume derived from castor oil.

The so-called indelible lipsticks—unless they have been tested for purity—should be used cautiously if at all, since it is customary to use a bromo acid dye in this type of stick. The objections to bromo acid dyes are (1) that they may contain contaminating substances, such as lead or other toxic metals, (2) that they have a tendency to dry the lips. It has been discovered also that these particular dyes may combine with some of the oils used and form an irritating com-

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pound. Occasionally, lipstick of this type is believed to have caused irritation due to the fact that its application under certain conditions may render the lips susceptible to irritation through exposure to light.

### Recommended

*Angelus Rouge Incarnat* (Louis Philippe, Inc., 8100 McCormick Blvd., Chicago)
*Richard Hudnut* (Richard Hudnut, 113-123 W. 18 St., N.Y.C.)
*Lip Rouge* (Heather Co., 154 Eleventh Ave., N.Y.C.)
*Max Factor's Super Indelible Vermilion* (Vivid) (Max Factor, 1666 N. Highland Ave., Hollywood)
*Outdoor Girl* (Crystal Corp., 130 Willis Ave., N.Y.C.)
*Pert Rouge* (Ross Co., 243 W. 17 St., N.Y.C.)
*Phantom Red* (Carlyle Laboratories, 67 Fifth Ave., N.Y.C.)
*Pompeian* (Pompeian Co., Elmira, N. Y.)
*Tangee* (George W. Luft Co., 34-12 36th Ave., Long Island City, N. Y.)
*Tattoo* Coral (Tattoo, Inc., 11 E. Austin Ave., Chicago)
*Tattoo* Natural (Tattoo, Inc.)
*Vanity Fair.*
*Ybry* (Ybry, Inc., 516 W. 34 St., N.Y.C.)

### Qualified Recommendation

*Kissproof* (Kissproof, Inc., 4316 N. Kilpatrick Ave., Chicago)
*Max Factor's* Medium (Max Factor)
*New Tattoo, Hawaiian* (Tattoo, Inc.)

# Cold Creams

COLD cream on the whole is believed to be a safe product. A few unpleasant experiences from its use have come to light, which appear, however, to be due to individual sensitivity to some ingredient present, perhaps one of the perfume oils used. Overuse of cold cream in place of soap and water to cleanse the skin is known to have been responsible for some cases of acne rosacea. Since the formulas for face creams are such common property and the ingredients so well known, it is doubtful that any *ordinary* cold or cleansing cream need be feared because of harmful or toxic ingredients. The simplest rule to follow is to purchase the brand which gives you the most for your money and whose texture and perfume please you.

The following cold creams tested for Consumers' Research are listed in order of increasing alkalinity. Whether or not this alkalinity is undesirable is a subject of conflicting opinion among cosmetic chemists. No brand has been given an unfavorable rating because of its presence. Comments are also introduced on the texture of the creams, which are purely personal opinion-judgments and not based on chemical or other test.

### Recommended

*Max Factor's* Theatrical (Max Factor, Hollywood) More like cleansing cream formula. Liquefies easily.

*Armand* (Armand Co., 124 Des Moines St., Des Moines) Texture smooth, slightly stiff.

*Lady Esther* Face Cream (Lady Esther Co., 2012 Ridge Ave., Evanston, Ill.) Texture smooth, light.

*Johnson's* Baby Cream (Johnson & Johnson, New Brunswick, N. J.) Texture stiff, smooth.

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*Three Flowers* (Richard Hudnut, 113-123 W. 18 St., N. Y. C.) Texture smooth, light.

*Boncilla* (Boncilla, Inc., Indianapolis) Texture light, smooth.

*Woodbury's* (Jergens-Woodbury Sales Corp., Cincinnati) Texture light, smooth.

*Faoen* (Park & Tilford, 485 Fifth Ave., N. Y. C.) Texture light, smooth.

*Belle Fleur* (Dermay Perfumers, Inc., 347 Fifth Ave., N. Y. C.; distrib. Silver-Grand chain stores) Texture slightly grainy, fairly light.

*Charmis* (Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City, N. J.) Texture smooth, fairly light.

*Jonteel* (Distrib. Liggett's drugstores) Texture stiff, slightly grainy.

*Daggett & Ramsdell* Perfect (Daggett & Ramsdell, 2 Park Ave., N. Y. C.) Texture smooth, uniform, slightly stiff.

*Pond's* (Pond's Extract Co., 60 Hudson St., N.Y.C.) Texture light, smooth.

*Parke-Davis* (Parke, Davis & Co., McDougall Ave., Detroit) Texture smooth, slightly stiff.

*Squibb* (E. R. Squibb & Sons, 745 Fifth Ave., N. Y. C.) Texture smooth, light.

# Cuticle Removers

CUTICLE removers nearly always consist of a caustic potash solution to which glycerin, water, and a little perfume are added. In too strong a solution, they are apt to be very drying to the skin around the nails and cause the cuticle to become cracked and unsightly. Because of this possible drying effect, all are given a *Qualified Recommendation.*

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QUALIFIED RECOMMENDATION

In all of the following, the essential ingredients were found to be potassium hydroxide (caustic potash), water, and glycerin.

*Cutex* (Northam Warren Corp., 191 Hudson St., N.Y.C.)
*Glazo* (The Glazo Co., 191 Hudson St., N.Y.C.)
*La Cross* (Schnefel Bros., 684 S. 17 St., Newark, N. J.)
*Miraglo* (M. V. C. Lab., Toledo, Ohio)

In all of the following, the essential ingredient was found to be potassium hydroxide.

*Noonan's* (T. Noonan & Sons)
*Trimal for Cuticle* (J. W. Marrow Mfg. Co.)
*White Cross* (Phanta Co.)

# Nail Lacquers

ALTHOUGH nail polish has been on the market for a number of years, it has only comparatively recently achieved a widespread popularity. In the early days, it was little more than a collodion solution ("liquid court plaster"). All liquid nail polishes are essentially nitrocellulose lacquers, which appear to be harmless for the most part. A careful search of medical literature reveals little or nothing on the subject of hazards involved in their use. There have been, however, a number of complaints that nail lacquers and polish removers make fingernails brittle and, as a result, very easily broken. The lacquers are given a *Qualified Recommendation* because of this tendency.

QUALIFIED RECOMMENDATION

*Cutex* (Northam Warren Corp., 191 Hudson St., N.Y.C.)
*Glazo* (The Glazo Co., 191 Hudson St., N.Y.C.)
*La Cross* (Schnefel Bros., 684 S. 17 St., Newark, N. J.)
*Miraglo* (M. V. C. Lab., Toledo, Ohio)

# Sheets and Pillowcases

IN buying sheets, the housewife should bear in mind the following:

1. The use of medium- or long-staple cotton yarns (fibers averaging an inch or more in length) is a partial assurance of durability. When sheeting is purchased by the yard, one can ravel out and untwist a yarn and note the length of the fibers. The shorter fibers make yarns which are weaker and more fuzzy. Degree of fuzziness may be examined by looking in a good light across the edge of a sharply folded fabric which has been scraped with the fingernail.

2. Only sheeting containing little or no sizing or filler should be considered. The amount of sizing used varies from less than 1 per cent of the weight of finished high-grade sheeting to as much as 30 per cent in the poor grades.

3. With the first two points determined, the specifications used by the government in purchasing sheets are a good guide for the private buyer. (Government sheets are good but not of a superior grade.) These are: minimum number of threads per inch shall be 74 in the warp and 66 in the filling; minimum weight (muslin), 4.6 ounces per square yard; minimum breaking (tensile) strength (grab method), 70 pounds in the warp and 70 pounds in the filling. All such information could and should be placed on sheet labels.

4. Individual manufacturers have their own standards for classifying sheets as firsts or seconds. First quality sheets should have practically no knots, uneven or thickened yarns, thick or thin or open places in the weave, nor broken yarns. Examine a newly purchased sheet carefully for flaws by holding sheet up to the light.

The proper torn length for a sheet is usually considered to be 108 inches, which makes the final length about 8 feet.

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The width of a sheet should be 2 or 2½ feet wider than the bed on which it is to be used, or 63 inches for a single bed, 72 inches for a three-quarter bed, and 81 or 90 inches for a double bed.

Pillowcases should have a circumference two inches greater than that of the pillows they are to cover and should, after hemming, be six inches longer than the pillows.

Percale sheets cost more and, excepting perhaps the best grades, give somewhat shorter service than the heavier muslins, but if sent to a laundry which charges by the pound, the saving in laundry charges will easily outweigh the additional cost of the sheets. Muslin sheets in which light weight has been achieved by coarser weave are too sleazy to be satisfactory or durable.

Of fifteen sheets and fourteen pillowcases tested, we recommend those which follow. The torn size of all the sheets was 72 x 108 inches.

### Sheets

#### Recommended

*Lady Fair,* Cat. No. 96—1954 (Distrib. Sears, Roebuck & Co.) $1.29 plus postage. Muslin. Weight per square yard, 5.1 ounces.

*Penco* (Distrib. J. C. Penney Co. chain stores) $1.23. Muslin. Weight per square yard, 5.0 ounces.

*Pepperell Regency* (Pepperell Mfg. Co., 160 State St., Boston) $1.69. Percale. Weight per square yard, 4.1 ounces.

*Pequot,* Cat. No. 204 EA 382 (Pequot Mills, Salem, Mass.; distrib. Cooperative Distributors, Inc., 30 Irving Pl., N. Y. C.) $1.42 plus postage. Muslin. Weight per square yard 4.9 ounces.

*Pequot* (Pequot Mills) $1.59. Muslin. Weight per square yard, 4.9 ounces.

*Wamsutta* (Wamsutta Mills, New Bedford, Mass.) $3.29. Percale. Weight per square yard, 3.9 ounces.

QUALIFIED RECOMMENDATION

*Fruit of the Loom* (B. B. & R. Knight Corp., 40 Worth St., N. Y. C.) $1.29. Muslin. Weight per square yard, 4.8 ounces.

*Golden Dawn* (Distrib. J. C. Penney Co., chain stores) $1.49. Percale. Weight per square yard, 4.1 ounces.

*Monsoon,* Cat. No. 96—1860 (Distrib. Sears, Roebuck & Co.) $1.47 plus postage. Percale. Weight per square yard, 3.9 ounces.

*Wards* De Luxe Percale, Cat. No. 16—9941 (Distrib. Montgomery Ward & Co.) $1.49 plus postage. Percale. Weight per square yard, 4.0 ounces.

**Pillowcases**

RECOMMENDED

*Lady Pepperell* (Pepperell Mfg. Co., 160 State St., Boston) 36 cents each. Muslin. Size 45 x 36 inches. Weight per square yard, 4.7 ounces.

*Pepperell Princess* (Pepperell Mfg. Co.) 64 cents each. Percale. Size 44½ x 39 inches. Weight per square yard, 4.1 ounces.

*Pequot,* Cat. No. 204 EA 301 (Pequot Mills, Salem, Mass.; distrib. Cooperative Distributors, Inc., 30 Irving Pl., N. Y. C.) 37 cents each plus postage. Muslin. Size 42 x 36 inches. Weight per square yard, 5.1 ounces.

QUALIFIED RECOMMENDATION

*Dwight-Anchor* (Nashua Mfg. Co., 40 Worth St., N.Y.C.) 35 cents each. Muslin. Size 45 x 38 inches. Weight per square yard, 4.8 ounces.

*Utica* (Utica & Mohawk Cotton Mills, Inc., Utica, N. Y.) 35 cents each. Muslin. Size 44½ x 39 inches. Weight per square yard, 4.7 ounces.

# Turkish Bath Towels

IN the towel industry, quality is identified by style numbers which are known to the manufacturer and the wholesaler but which are not divulged to the consumer. Thus the name *Cannon* or *Martex* designates towels of many different grades and prices.

Most Turkish towels may be classified into four very common types of construction as follows:

Type I—Single-ply ground warp with half as many ground as pile yarns. Single-ply filling.

Type II—Single-ply ground warp with an equal number of ground and pile yarns. Single-ply filling.

Type III—Two-ply ground warp with an equal number of ground and pile yarns. Single-ply filling.

Type IV—Two-ply ground warp with half as many ground yarns as pile yarns and with single-ply filling. This type is less common and not particularly to be desired.

Of sixteen nominally 22 x 44-inch Turkish towels tested for colorfastness, weight, durability, and shrinkage after washing, we recommended those which follow.

### Recommended

*Cannon* (Cannon Mills, Inc., 70 Worth St., N.Y.C.) 49 cents. Type II. Weight, 9 ounces. Tensile strength: warp 44 pounds, filling 35 pounds.

*Cannon* (Cannon Mills, Inc.) 59 cents. Type II. Weight. 9 ounces. Tensile strength: warp 56 pounds, filling 35 pounds.

*Martex "Monarch"* (Wellington Sears Co., 65 Worth St., N.Y.C.) 50 cents. Type II. Weight, 9.8 ounces. Tensile strength: warp 49 pounds, filling 36 pounds.

*Martex* (Wellington Sears Co.) $1. Type II. Weight, 11.5 ounces. Tensile strength: warp 54 pounds, filling 37 pounds.

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QUALIFIED RECOMMENDATION

*Cannon* (Cannon Mills, Inc.) 29 cents. Type II. Weight, 6.5 ounces. Tensile strength: warp 44 pounds, filling 29 pounds.

*Cannon,* Cat. No. 19—8739 (Cannon Mills, Inc.; distrib. Sears, Roebuck & Co.) 37 cents plus postage. Type II. Weight, 6 ounces. Tensile strength: warp 39 pounds, filling 30 pounds.

*Moor,* Cat. No. 19—8735 (Distrib. Sears, Roebuck & Co.) 37 cents plus postage. Type II. Weight, 8 ounces. Tensile strength: warp 39 pounds, filling 69 pounds.

Sears, Roebuck & Co., Cat. No. 19—8723. 57 cents plus postage. Type I. Weight, 9.5 ounces. Tensile strength: warp 37 pounds, filling 34 pounds.

*Cannon* (Cannon Mills, Inc.) $1. Type III. Weight, 9.5 ounces. Tensile strength: warp 44 pounds, filling 33 pounds.

*Martex "West Point"* (Wellington Sears Co.) 75 cents. Type II. Weight, 9.5 ounces. Tensile strength: warp 39 pounds, filling 35 pounds.

*Martex* (Wellington Sears Co.) $1.25. Type III. Weight, 11.5 ounces. Tensile strength: warp 36 pounds, filling 43 pounds.

# Recent Books of Fiction

A BOOK is almost always an appropriate gift, even if "she already has one." As always, however, there are good books and bad; and of the making of many of both kinds there is no end. Those who are looking for fiction with a proletarian message, hoping to indoctrinate their bourgeois friends during a season of emotional susceptibility, will *not* approve our recommendations. Those who wish to make a present of a

tale well told will find something suitable for almost every fictional taste among the following:

RECOMMENDED

*Katrina* by Sally Salminen (Farrar & Rinehart. $2.50).

A first novel by a skilled story teller. Setting on the Aland Islands where all of life is organized around men who go down to the sea in ships. Winner of the Helsingfors Prize Novel Contest.

*Point Noir* by Clelie Benton Huggins (Houghton Mifflin Co. $2.50).

A Fellowship Prize Novel with its setting in the Bayou country of Louisiana. At least a slight knowledge of French desirable for the highest enjoyment of the story.

*Enchanter's Nightshade* by Ann Bridge (Little, Brown and Co. $2.50).

Setting in the foothills of the Italian Alps, where for the summer months a large family, including relatives, finds its vacation excitingly eventful. The author's best novel.

*The Turning Wheels* by Stuart Cloete (Houghton Mifflin Co. $2.50).

In his first novel, the author makes the epic of the Boers of South Africa live again. A first-rate historical novel.

*Hath Not the Potter* by Maxence van der Meersch (Viking Press. $2.50).

A grim and tragic, but finally dignified, story of a man and two women who battle with life in Flanders fields in Belgium. The Goncourt Prize Novel.

*The Seven Who Fled* by Frederic Prokosch (Harper & Brothers. $2.50).

Better than the author's *The Asiatics*. The dramatic story of seven Europeans caught in political upheaval in Chinese Turkestan.

*Young Henry of Navarre* by Heinrich Mann (Alfred A. Knopf. $3.00).

Based upon the life of Henry IV of France who came to his throne late in the sixteenth century. A novel worthy of the distinguished German-in-exile.

*The Rains Came* by Louis Bromfield (Harper & Brothers. $2.75).

An aspect of that incomparably subtle and elusive civilization, India; grasped and told by a master.

*So Great A Man* by David Pilgrim. (Harper & Brothers. $3.00).

Historical romance, with a panoramic view of European politics, built around the figure of Napoleon.

*The First Rebel* by Neil H. Swanson (Farrar & Rinehart. $3.00).

The story of James Smith and the Pennsylvania uprising which antedated the Battle of Lexington by a decade. A little known but stirring chapter out of Colonial America. Better than *Northwest Passage,* which is not to disparage the latter by any means.

*Summer Moonshine* by P. G. Wodehouse (Doubleday, Doran and Co. $2.00).

England, of course! With a generous sprinkling of turbulent and hilarious Americans to complete the comedy. A light and very potable liqueur for a literary Christmas dinner.

# Recent Books of Non-Fiction

IN books, the field of non-fiction is a vast one. Travel, adventure, the arts, science, politics and economics appeal variously to those who want the best in gift books. Among the best in the current book season, the gift purchaser will do well to consider the following:

RECOMMENDED

*The Arts* by Hendrik Willem Van Loon (Simon and Schuster. $3.95).

The best yet in the inimitable style of Van Loon, covering a vast range of time and subject matter. Copiously and entertainingly illustrated by the author.

*Assignment in Utopia* by Eugene Lyons (Harcourt, Brace & Co. $3.50).

All you need to know about the world's foremost misadventure in collectivism by the one man better qualified than all others to bring back a report from "Utopia." Read about the way in which leftists get into the most solidly capitalistic newspapers in order to "slant" the news to their purposes.

*The Good Society* by Walter Lippmann (Little, Brown and Co. $2.50).

A defense of economic liberalism, whose value is certain to survive all the current brands of collectivism here and elsewhere.

*Japan Over Asia* by William Henry Chamberlin (Little, Brown and Co. $3.50).

The only indispensable volume for background and understanding of the war in China, by a reporter whose independence of judgment and general reliability are too rare in a day when leftist news-distortion is a common political device.

*Island of Bali* by Miguel Covarrubias (Alfred A. Knopf. $5.00).

A careful study of the people and customs of the world's most glamorous island. As beautiful a piece of book manufacture as the current list provides, with paintings and drawings by the author and an album of photographs by his wife.

*Andrew Jackson* by Marquis James (Bobbs-Merrill $5.00).

A portrait of one of America's most vigorous and interesting presidents, by one of our most competent biographers.

*Dark Islands* by John W. Vandercook (Harper & Brothers. $3.50).

Travel-adventures in the islands of the South Pacific by the author of *Black Majesty.*

*400 Million Customers* by Carl Crow (Harper & Brothers. $3.00).

The story of the experiences of an advertising man in China. Aspects of Chinese life which have escaped the attention of all previous narrators.

*Bulwark of the Republic* by Burton J. Hendrik (Little, Brown and Co. $3.50).

The story of the Constitution of the United States. Timely!

*Let Your Mind Alone* by James Thurber (Harper & Brothers. $2.50).

An antidote administered with finality. Will kill and cure the craving for personality-massaging.

# Children's Books of 1937

RECOMMENDED BY ANNE CARROLL MOORE

*And to Think That I Saw It on Mulberry Street* by Dr. Seuss. The Vanguard Press. $1.00.

*The Boy Shelley* by Laura Benét. Dodd, Mead. $2.00.

*Seven Simeons; a Russian Tale Retold and Illustrated* by Boris Artzybasheff. The Viking Press. $2.00.

*No Other White Men* by Julia Davis. E. P. Dutton and Company. $2.00.

*Wind of the Vikings; a Tale of the Orkney Isles* by Maribelle Cormack. D. Appleton-Century Company. $2.00.

*Introducing the Constellations* by Robert H. Baker. The Viking Press. $2.50.

*Vinny Applegay, Her First Year in New York* by Ethel Parton. The Viking Press. $2.00.

*Who Rides in the Dark?* by Stephen W. Meader. Harcourt, Brace. $2.00.

*Red Jungle Boy* by Elizabeth K. Steen. Harcourt, Brace. $2.00.

*The White Stag* by Kate Seredy. The Viking Press. $2.00.

*With Cap and Bells; humorous stories to tell and to read aloud.* Selected by Mary Gould Davis. Harcourt, Brace. $2.00.

*Medieval Days and Ways* by Gertrude Hartman. The Macmillan Company. $2.50.

# Cigars

THE following brands of cigars were rated as to quality by a cigar expert, on the basis of judgments of taste and smell. Owing to the uncertainty of identifying the constituents of cigars after they are made, the variety of tobacco in filler, binder, and wrapper is, in most cases, not given. This study did not include information on arsenic, lead, or nicotine content.

The superior tobaccos (mild imported—not domestic—Sumatra, mild Havana, light Connecticut) seem to contain less nicotine than the stronger tobaccos (dark Connecticut, most Ohio tobacco, and dark Puerto Rico).

Practically all cigars are now manufactured by machine at much lower cost than formerly by hand, though not so well finished.

### Recommended

*Admiration* (E. Regensburg & Son, Tampa, Fla.) 10 cents. 4½-inch straight cigar. Havana. Mild.

*Bellaci.* 5 cents. Panatela. Straight cigar. Havana. Considered a very good cigar.

*Bering* (Corral Wodiska Y Ca., Tampa, Fla.) 11 cents. 4¾-inch straight cigar. Havana.

*Blackstone* (Waitt & Bond, Newark, N. J.) Londres three

for 25 cents; panatelas two for 15 cents (only difference is in size and shape). No adulteration. A mild smoke; good value for the money. Some drew hard.

*Cremo* (American Tobacco Co., N.Y.C.) Three for 10 cents. 5¼ inches.

*Dubonnet,* Bouquet (Distrib. United Cigar Stores, Inc.) 5 cents. 5¼ inches.

*Dutch Masters* (Consolidated Cigar Corp., 730 Fifth Ave., N.Y.C.) 10 cents. Perfecto. A pleasant smoke. No adulteration.

*El Producto,* Bouquet (G.H.P. Cigar Co., Inc., Philadelphia) 7 cents. 4¾ inches. Considered a very good cigar.

*Golden Dawn,* Queens (Distrib. United Cigar Stores, Inc.) 5 cents.

*Haddon Hall* (E. D. Klein, N.Y.C.) 10 cents. Perfecto.

*Harvester* (Consolidated Cigar Corp.) 5 cents. A good, inexpensive small perfecto.

*Havana Ribbon* (Bayuk Cigars, Inc., Ninth and Columbia Ave., Philadelphia) Three for 10 cents. Londres. Slightly strong taste.

*Henrietta* (Webster Eisenlohr, Inc., 187 Madison Ave., N.Y.C.) 4 cents. 5-inch blunt cigar.

*King Edward* (Jno. H. Swisher & Son, Inc., Jacksonville, Fla.) Two for 5 cents. Invincible. Short filler.

*La Anzora* (Scranton Tobacco Co., Scranton, Pa.) 5 cents. 5¼ inches. Club perfecto.

*Lady Churchill,* Loberanos (Distrib. United Cigar Stores, Inc.) 5 cents. 5¼ inches.

*La Palina* (Congress Cigar Co., Inc., 744 Broad St., Newark, N. J.) Three for 25 cents. Perfecto.

*La Primadora* (Max Schwarz, Second Ave. and 54 St. N.Y.C.) 10 cents. Small perfecto. Havana.

*Muriel* (P. Lorillard Co., N.Y.C.) 5 cents. Perfecto.

*Orlando* (Distrib. United Cigar Stores) 5 cents. 5⅛ inches. Media perfecto.

*Quincy.* 5 cents. Straight cigar.

*Robert Burns,* Perfecto Grande (General Cigar Co., Inc., 119 W. 40 St., N.Y.C.) 10 cents. 5½ inches.

*Robert Burns,* Panatela De Luxe (General Cigar Co., Inc.) 10 cents. 5½ inches.

*S. Seidenberg* After-Dinner (I. Lewis Cigar Mfg. Co., 165 Morris Ave., Newark, N. J.) 5 cents. Perfecto.

*Walnut* (John Middleton, 1211 Walnut, Philadelphia) 5 cents. 5-inch perfecto. Mild.

*White Owl* (General Cigar Co., Inc.) 5 cents. 5½ inches. Invincible.

### Qualified Recommendation

Cigars using short Havana ("table shorts") as filler have the disadvantage that tobacco may make its way into the mouth.

*Garcia and Vega* (Garcia & Vega, Tampa, Fla.) 5 cents. Regalia. Filler: short Havana.

*Girard* (Webster Eisenlohr, Inc.) 5 cents. Perfecto. Not uniform in manufacture; some drew hard and some fell apart.

*Natural Bloom* (Harry Blum, 1300 First Ave., N.Y.C.) 5 cents. Small, straight cigar. Filler: short Havana.

*Optimo King* (A. Santaella & Co., Tampa, Fla.) Two for 25 cents. Corona shape. Misrepresented. Not clear Havana.

*Phillies* (Bayuk Cigars, Inc.) 5 cents. Perfecto. Not mild. Filler: mixed Pennsylvania and Havana. Wrapper, Sumatra. Claim "It's ripe tobacco!" meaningless; all cigar tobacco must be "ripe."

*Ricoro* (Distrib. United Cigar Stores, Inc.) 5 cents. Perfecto. Bitter.

*Slendorita* (Distrib. United Cigar Stores, Inc.) 5 cents. Panatela.

# Automobile Heaters

IN purchasing a heater, it should be inspected to see that it has a defroster connection (as 1937 models do) especially if the car for which it is intended is equipped with defroster openings in the dash.

The 1937 and 1938 *Fords* require special hot-water heaters with the water outlets on the right side of the back of the heater so that they can be mounted in the center of the dash, as the battery occupies the space on the right.

Care should be exercised, in buying a hot-air type of car heater, to see that six to eight inches of flexible pipe connect the device with the opening in the dash; since the engines of many automobiles are now flexibly mounted on rubber, they may have considerabe motion relative to the dashboard of the car. Exhaust heaters consisting of hot-air jackets surrounding the exhaust manifold are cheap and effective, but in using this type, it is extremely important that all manifold gaskets be inspected to ensure that no exhaust gas be blown into the car.

Hot-water systems were designed to avoid this difficulty; several instances have been noted, however, where a water leak developed in the heating system and allowed the water of the radiator cooling system to leak out while the car was running at high speed on the road, with no warning to the driver until the motor bearings were ruined by overheating. If the car is not equipped with thermostats, the owner should have them installed on any car before using a hot-water heater. It is believed that this system, with well-kept water connections (and these should be occasionally inspected for firmness of connections, absence of leaks, etc.) will be the most satisfactory heater in cold climates.

From Consumers' Research *Bulletin*, September, 1937

As the cost of installation varies with the locality, the prices listed below do not include installation. The usual installation price in cities is $2.

RECOMMENDED

*Twinflow* Heaters (Harrison Radiator Corp., Lockport, N. Y.) De Luxe, $17.95; Master, $14.95; Standard, $12.95 for most cars; *Chevrolet* 1935-36-37, one thermostat $13.95; *Ford V-8,* including two thermostats $14.95; Duplex, $9.95. A good line of heaters with some very desirable features.

*1937 Ford McCord* Hot-Water Heater (McCord Radiator & Mfg. Co., Detroit) Designed especially to be installed in the center of the dash on 1937 *Fords.*

*HaDees* Hot-Water Heater (Liberty Foundries Co., Rockford, Ill.) A very good line of hot-water heaters at $6.95 (for chain-store competition), $9.95, $12.95, $15.95, and $19.95. The $12.95 model will serve under most circumstances.

*Tropic Aire* Hot-Water Heater (Tropic Aire, Inc., 60 Eleventh Ave., N. E., Minneapolis) One of the oldest makes and considered about the best of its type. Heaters at $9.95, $12.95, and $15.95. The $12.95 model will serve under most circumstances.

*Arvin* Hot-Water Heater (Noblitt-Sparks Industries, Inc., Columbus, Ind.) A very good line of heaters at $9.95, $12.95, also $15.95, and $19.95. The $12.95 model will serve under most circumstances.

*Goodrich* Hot-Water Heater (Goodrich-Silvertown stores) Have three models at $6.95, $10.95, and $13.45. The $10.95 model recommended for most circumstances.

*Ford V-8* Hot-Air Heater (All Ford dealers) Has button on instrument panel to control heater opening. Recommended for use only on *Ford V-8.* $12. Rear compartment outlet $4 extra. During slow driving under light loads in cold climates, the heat furnished will be in-

sufficient. Care must also be taken not to follow closely behind trucks or other cars, otherwise the poisonous exhaust gases of the vehicle ahead will be picked up and enter the car through the heater air intake. One serious objection to this heater is that the hot, dry air it delivers is somewhat irritating to the eyes and to the skin on a long drive.

### Qualified Recommendation

*Super* Heater (Super Heater Mfg. Co., 2408 N. Front St., Philadelphia) Hot-air type with an electric-motor-driven blower.

# Card Tables

AS a rule, when considering a card table for purchase which has not been tested and recommended by *Consumers' Digest,* diagonal supporting members beneath the table top are preferable to other types of construction. Plywood tops are to be preferred, for cardboard and wallboard tops have a short, unsatisfactory life. Examine the leg joints to see that they lock rigidly. To protect stockings, be very sure that legs are entirely devoid of splinters and rough spots.

We are able to recommend only two of the ten tables tested for this report. Some of the tables tested were of almost unbelievably shabby and shoddy construction. Several of them had metal or other projections on the top, on which the fingers or cards would easily catch. A finger nail might be painfully torn on one of these projections. One of the tables had a label which pictured five husky men standing on top of it, designed, of course, to convey the impression of unusual strength. The five men, so pictured, were all definitely well-fed and portly gentlemen who might have been United States Senators or labor leaders. It might have been a better sales appeal to have pictured the five gentlemen *under* the table. However, in our test, when three men of lesser stature got on top of the table in the precise manner represented in the picture and a fourth was taking his place, the whole thing crashed to the ground, a pitiable wreck.

*Leg-o-matic* Model No. 9590 Style 310 (Lorraine Metal Mfg. Co., 352 Fourth Ave., New York) $6.95. Table has strong catches. Top construction well braced. This table employs an ingenious mechanism by which opening or closing of any one leg moves the other three into the correct position. Locking device works well and is convenient. Has a wooden frame of exceptional rigidity.

Top is covered with imitation leather of pleasing appearance. A well finished table throughout.

*Ferguson* No. 7037 (Ferguson Bros. Mfg. Co., Kansas City, Mo.) $3.19. Table has strong catches. Top construction well braced. Has a wooden frame of exceptional rigidity. Top covered with imitation leather of pleasing appearance.

**EVERYDAY MOVIES** **By Denys Wortman**

*"Hold on to your coffee cup, Elizabeth, I'm going to cut the bread."*

# Test for Ash in Coal

ONE of the most important characteristics that determines the economy of the use of coal is the percentage of ash which it contains. Various kinds of coal contain from three to twenty-five per cent of ash.

Accurately weigh a crucible or small evaporating dish which has been heated to dull red with a Bunsen burner and cooled. Add a small quantity of the coal which has been finely powdered in a mortar. Again weight the container with the coal. The difference in weights represents the weight of the coal.

Place the crucible or evaporating dish two or three inches above a Bunsen flame under an exhaust hood, or wherever the fumes will be carried away from the experimenter and will not be breathed. Allow it to heat for fifteen or twenty minutes, when most of the carbonaceous matter will have volatilized or burned off. Then lower the dish to within one-fourth or one-half inch of the flame and leave for some time. Stir the mixture occasionally with a piece of copper wire, being careful not to lose any of the coal. Finally adjust the burner for its highest temperature and heat for twenty minutes longer; stir occasionally. Cool, then weigh.

If the absolute amount of the ash is desired and not merely a relative amount determined by making measurements at one time on several specimens of coal, the cooling of the ash should take place in a desiccator so as to prevent absorption of moisture from the air. The weight obtained less the weight of the container is the weight of the ash, and the percentage of ash may be computed as follows:

$$\frac{\text{Weight of ash} \times 100}{\text{Weight of coal}} = \%\ \text{ash}$$

From the *Consumers' Test Manual* issued by Consumers' Research

# GULLIBLE'S TRAVELS

November 24, 1937.

Snocum,
Coconut Grove,
Pacificania.

Dear Snocum:

Gradually I am learning all that is necessary for a happy existence in this country.

Last year at Christmas time, shortly after I had arrived in America, I found myself suffering a great deal of discomfort after consuming these enormous meals of the season. I wondered how Americans managed to eat so much of everything they desired. Such foods and combinations of foods, processed and branded beyond all recognition by one who had been accustomed to plain foods with plain names!

Now I know the great American secret of gastronomic welfare. I owe it, as I do so much else in my American education, to the radio. The secret of successful gluttony is Ibinipig, the magic tablet effervesced in a glass of water for after-dinner comfort. Now I can, like a true American, put anything in almost any quantities into my stomach.

There's nothing like being able to flout Nature and her silly laws of alimentary welfare. Unlike the restrictions under which we live in Coconut Grove,

Nature is compelled by Ibinipig to take a broad-minded attitude toward the subject of eating. Thanksgiving and Christmas time are happy festive occasions, thanks to the makers of Ibinipig.

It's so much fun to watch Ibinipig effervesce. Furthermore, Americans even delight themselves by listening to its effervescence on the radio when the announcer drops a tablet into a glass of water by the microphone.

In public places, like the subway trains, the makers of Ibinipig use poetry and pictures to advertise. Here is a little poem which I copied down from a subway advertisement:

When I eat like a glutton,
I don't care a fig;
I simply dose up
With Ibinipig.

There are, of course, countless imitators of the one and only genuine Ibinipig. It seems that a large part of drugstore trade is in the original remedy and its many imitators. Some of them are Stoma-Rem, Tummy-fizz, Unobelcho, Gastra-joy, Tum-tum-now, Burpys, and Endabelch. In these, it is easy to discern the flattery of imitation.

Of course, Ibinipig is a scientific product. I have been trying to unravel its mystery by breaking down the name into

its various parts. I think I have it, although Impervious tells me that I am goofy. Here's the way I figure it out: I—that's me; bi—for bicarbonate of soda; nip—just nip; ig—abbreviation for ignorance. So, I nip my ignorance in the bud by that priceless human friend bicarbonate of soda. Impervious, however, says that it is just plain I-been-a-pig, but he is always making jokes out of serious, even scientific, matters.

Truly, the radio has been one of the greatest boons to Americans. Through it, they have learned the art of self-medication, and are able to ignore physicians; and through it, they have learned the art of gluttony, and are able to ignore Nature.

Sincerely yours,

Gullible

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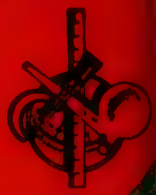

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